THE CULTIVATOR:

A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

"AGRICULTURE, AT ONCE THE CAUSE AND EVIDENCE OF CIVILIZATION."

CULT. VOL. VII—No. 12. ALBANY, N. Y. DECEMBER, 1840. CULT. AND FAR. VOL. I—No. 12.

PUBLISHED MONTHLY,
BY JESSE BUEL & CO. PROPRIETORS,
Office No. 7 Exchange, Second Floor.

TERMS—ONE DOLLAR per annum—*Six copies* for $5—the money to be remitted in advance, free of postage. A commission of 20 per cent will be allowed to Agents who obtain 25 or more subscribers, and 25 per cent to those who obtain 100 or more. All subscriptions to commence with a volume.

THE CULTIVATOR.

WILLIS GAYLORD & LUTHER TUCKER, EDITORS.

☞ An Extra Sheet, containing the Title-Page, Index, List of Agents, and a variety of other matter, is now in press, and will be ready for mailing to our subscribers by the middle of the month.

☞ For "Notice to Correspondents," see Extra Sheet.

TO OUR SUBSCRIBERS.

The present number closes the Seventh Volume of the CULTIVATOR, and according to our original terms, all subscriptions, except such as are paid in advance, will expire with the year. We are truly grateful to the public who have so liberally sustained us, and awarded such ample encouragement to our labors. In the company of our TWENTY-TWO THOUSAND SUBSCRIBERS the year has passed pleasantly with us, and we trust that the feeling of mutual benefit and kindness has been fully reciprocated; and now that the first period of our mutual engagement is closed, we are unwilling to part with any of our friends, and respectfully ask them to renew their subscriptions and keep us company another year. We ask them, at the time of taking this paper from the office, or as soon after as practicable, to authorize our agent or the postmaster to forward us their names for the coming year.

The plan of the Cultivator and its character are too well understood to render a word of explanation necessary. Placed by the unanimous consent of the farming community at the head of the Agricultural Journals of this country, the extent and variety of its contents, its list of contributors, unrivalled for numbers as well as practical and scientific skill, the superiority of its practical execution, and the number and excellence of its illustrations on every subject connected with agriculture, have all contributed to render it a favorite with all classes interested in the cultivation of the soil. This elevated standing it will be the uninterrupted effort of the publishers and conductors to maintain; and at no time has the means of doing this been so ample as at the present.

We hail it as a sign that augurs well for the prospects of an improved agriculture, that multiplied as the Agricultural Journals of our country are, each one is now receiving a larger patronage than the two or three which existed ten or fifteen years since did at that time. Men are not ashamed to inquire; they are not afraid to read; the charge of book farming has no terrors for them; and the idea that farmers have from their birth all the knowledge of agriculture necessary for them, has now few advocates. To extend the means of knowledge; to inculcate correct theory and sound practice; to furnish the reflecting with matter for thought, and the practical man with instruction immediately available, has been and will continue to be the great end of this periodical.

Our thanks are particularly due to Postmasters and other gentlemen, in all parts of our country, who, feeling an interest in the success of our agriculture as the great source of national and individual prosperity, have kindly brought our work to the notice of their friends, and otherwise interested themselves in procuring subscribers. We respectfully ask a continuance of their kind offices in our behalf.

For terms, &c. see Prospectus in another column.

☞ The number of Contributors to the CULTIVATOR, during the 7th vol. now completed, amounts to about THREE HUNDRED, from all sections of the Union, not a dozen of whom but are practical farmers.

☞ Gentlemen who receive our Prospectus for vol. 8, are requested to act as Agents.

"To Improve the Soil and the Mind."

"I know of no pursuit in which more real or important services can be rendered to any country, than by improving its Agriculture."—*Washington.*

"Agriculture is the Great Art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature improve."—*Dr. Johnson.*

THE CULTIVATOR,

A consolidation of Buel's Cultivator and the Genesee Farmer.
WILLIS GAYLORD & LUTHER TUCKER, EDITORS.

Prospectus of Vol. 8, for 1841.

In offering to the agricultural public of the United States, the prospectus of the Eighth Volume of the Cultivator, (the Second of the New Series,) we desire the privilege of taking our patrons and correspondents familiarly and cordially by the hand, and thanking them most heartily for the very liberal aid and support they have rendered us, both by their communications and their subscriptions.

The Cultivator was established to improve and elevate the Agriculture of the country; to give a proper tone to the morals and mind of the farmer; to show him the dignity and importance of his profession; to store his mind with useful knowledge, and convince him that while all classes are and must be more or less dependant on each other, he alone of the whole can make any near approach to independence. If there is one thing more than another, which in this country gives a man superiority over his fellow men, it is knowledge; and this knowledge,—knowledge which is as essential to the success of the farmer as of other men,—it is the design of the Cultivator to aid in imparting.

In taking charge of the Cultivator, the Editors were aware of the arduous nature of the undertaking. Under its former conductor, this journal had already attained a very high character, and we might have shrunk from the task of sustaining the reputation it had gained, or from the efforts necessary to still farther elevate its standing, had not the assurance of aid from the ablest writers and the most experienced farmers of the country—aid which our columns will show has been and will be most promptly and fully rendered,—encouraged us to the undertaking. How far we have succeeded must be left for the readers of the Cultivator to determine; but if an increase of subscription beyond any precedent in the history of Agricultural Journals of this country; if the almost unanimous voice of the public press in our favor; if the multitude of private yet flattering testimonials we have received, added to a circulation probably treble that of any other journal devoted to the agricultural interests, may be admitted as evidence, then we have certainly most abundant reason to be gratified with our success.

In our efforts to render the Cultivator worthy of the patronage it has received, no expense or labor has been or will be spared. As it is every where received as the exponent of the condition and prospects of Agriculture in the United States, we intend that every subject connected with that great interest in any part of our country shall receive its due share of notice, and its proper place in our columns. The Cultivator will be a record of all improvements in the science of Husbandry; of the introduction of new and important varieties of seeds and plants; of the respective values and adaptation of the several improved breeds of Horses, Cattle, Sheep and Swine, to the different sections of the United States; in short it is intended to make it a work which shall interest, instruct and be acceptable to all.

In the number, variety, and excellence of the ILLUSTRATIONS, the Cultivator is without a rival, either at home or abroad. This department will be fully sustained, and increased interest and attraction given by a greater number of figures of American Animals, selected from our best specimens of all kinds, native and imported; by the drawings of new Implements, Agricultural and Mechanical; and by engravings of such objects as will be better understood, when given with such illustrations. The engravings and illustrations of the present volume will be nearly equal to one hundred in number; and the satisfaction they have given our patrons, will secure their continuance, notwithstanding the great expense they necessarily occasion us.

The sales of the Cultivator have been so great during the past year, and the demand for the back volumes as well as the current one so constant, that we have stereotyped each number; and shall be able, now and hereafter, to furnish subscribers with whole sets, or any single volumes they may desire.

To our personal friends, to the friends of Agriculture, to those Gentlemen who have acted as our Agents, to Postmasters generally throughout the country,—in short to all those who have so generously interested themselves in our behalf, in bringing a knowledge of our work to the notice of their friends, and in obtaining subscribers, our most heartfelt and cordial thanks are due. While we have endeavored to make our terms such as to offer an adequate inducement and reward to those who are disposed from pecuniary motives to interest themselves in our favor, we shall still be indebted to all who will in any way aid us in our efforts to make the Cultivator more generally useful, either by increasing its circulation or employing their pens for its columns.

Our gratitude is especially due to those gentlemen whose numerous able and varied communications have given such an interest and value to our paper; and we are confident from their well known regard to the vital interests of American Husbandry, that our appeal to them for their farther aid, will not be in vain. We invite communications from all. There is scarcely a subject in nature that is not more or less intimately connected with agriculture, and may not be made subservient to its advancement.

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ENGRAVINGS FOR THE CULTIVATOR.

We are gratified at the proofs we are receiving from various quarters, that our efforts in procuring figures of American animals, from herds or stocks of the most approved kinds, is duly appreciated by our subscribers. We are determined to spare no expense in this respect, and shall make the Cultivator the Herd Book of America. One of the greatest difficulties is the obtaining good drawings, spirited and life-like, for the engraver. The value of the portraits depend on their correctness. Though we may have failed in this respect in some cases, we can refer with pride to the portraits from the pencil of our correspondent "R." (the respected President of the N. Y. State Ag. Society, FRANCIS ROTCH, Esq.) who is without a rival in this country, and who has, we are inclined to think, few rivals abroad in the skill of perfectly delineating an animal. Of this, those who examine the portraits of 'Oneida' and 'Dallimore,' and the 'Merino Ewe' in this paper, will feel the force and admit the justice. But Mr. Rotch has added vastly to the value of his pencil sketches, as correct representations of living animals, by the sound and discriminating views which characterize the remarks and descriptions he has attached to them. We hope, and we are sure our numerous readers will concur with us, that he will continue the series he has commenced with so much skill and taste, until our pages shall be graced with portraits from his pencil of all the valuable breeds of domestic animals, so many fine specimens of which are to be found among his own flocks and herds.

TENNESSEE AGRICULTURAL SOCIETY.

The second annual meeting of this efficiently constituted society took place at Nashville on the 13th of October. Quite a number of the able and spirited members of the society were present, and a number of interesting reports on various subjects connected with agriculture were made. The Hon. E. DILLAHUNTY addressed the society on the necessity of a radical reform in the agriculture of Tennessee; and the President, Dr. JOHN SHELBY, delivered the annual address before that body. The subject was the true principles of breeding domestic animals, a topic which the scientific knowledge and research of the writer, as well as his experience in this branch of rural economy, well qualified him to discuss.

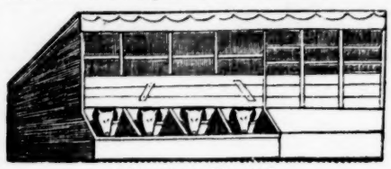
At one of the sessions of the society, it was upon motion "resolved that M. Mechand of Paris; A. B. Allen of Buffalo, N. Y.; Luther Tucker of Albany, N. Y.; John S. Skinner and Gideon B Smith of Baltimore, Md.; Edmund Ruffin of Petersburg, Va.; Hon. Henry Clay of Kentucky; and Hon. Isaac Hill of N. H., be elected honorary members of the Tennessee State Agricultural Society."

We thank the society for the honor thus conferred on ourselves, and beg leave to assure that respectable body, that they have our most cordial wishes for their entire success in the laudable purposes contemplated in their organization

FATTENING PORK.

Madam Glass, in her delectable dissertations on cookery, as a preparatory step towards dishing a sturgeon's nose, first directs the novice in culinary art to catch one; so the preliminary step in making pork is to catch or procure the pigs. On the choice of the animals made for feeding, most of the profit will be depending; and when it is recollected there is an immense difference between the pleasure of feeding daily a pen of sleek, quiet, thriving grunters, and the continual irritation and vexation experienced in dealing out provender to a gang of ungrateful, squealing, squabbling creatures, of whom, week after week you are obliged to say, "the more they eat the worse they look," the necessity of attention to this point of selection will be apparent to all. It would be rather difficult at present, in any civilized part of the country to find any of the genuine old fashioned squealers, that used to devour all a farmer's corn, and then weigh from one hundred to one hundred and fifty; but a little observation will show there are multitudes of hogs about the country, but a few shades removed from these, and the task of making pork from such will be found both tedious and unprofitable. In spite of the opposition which has been made by the ignorant and the prejudiced, the good effects of the importation of good breeding hogs, has long been felt in the improvement generally of our swine. In some kind and degree, and under some local or general name, hogs with an infusion of imported blood which has essentially altered their form and propensity to fatten, are to be found all over the country. The Byfield, the Mackay, the Darlington, the Parkinson, and a multitude of other varieties, all originating from some fortunate cross of the imported and native breeds, have for a number of years nearly or quite in the eastern and middle states, displaced the alligator, shad backs, and saw horse tribe of the original stock. More lately still have been introduced the pigs called the Grass breed, the Irish grazier, and superior to all, as combining the good qualites of all, the beautiful Berkshire. We know that it is a common remark among the stationary, or no-movement farmers, that it is the feed and not the breed that makes the hog; and we know too that a more unfounded and injurious notion scarcely exists. Fifty years since, farmers gave their hogs more good feed in making pork than is now done, yet no one will pretend the average weight at that time, could be compared with that reached by modern porkers. In conversing with a veteran farmer of nearly eighty, a few days since on this very topic, he remarked—"I remember when with three yoke of cattle and a common cart, I carried to market at a single load twenty-seven fatted hogs, and all scarcely weighed as much as half a dozen of our best hogs now weigh." Perhaps as good a breed of hogs for the farmer as can be found, would be one that with small clean bone and light offals, would weigh at eighteen months and well fatted, about four hundred pounds. There is no possible necessity in a hog of this weight, in having one third of the weight bone, as was the case with the coarse, large boned, long legged breeds. There is as much difference in the size of the bones in the improved hogs and the old breeds, as between those of the Arabian and the English dray horse; and while there should always be enough, too great a redundancy of bone is one of the most serious defects in any animal intended for feeding. Select then for fattening, hogs well formed, short snouts, light offals, clean boned, quiet, and if possible of breeds which experience has proved fatten easily, and place the greatest weight where it will be worth the most. The extremes of the hog genus are the Alligator and the Chinese. On the first food and time are thrown away; the last are when pure too small for the farmer who makes pork to sell, but is the most quiet and easily fattened of any breed. Experience has shown that a cross between the Chinese and some variety of fine points, but heavier and larger, makes the best farmer's hogs, and the improved Berkshires are at present deemed the *ne plus ultra* of swinish perfection.

Having selected your pigs, the next thing to be attended to is your hog-house, pen, or place of feeding. Many farmers have their pig pen as long as the road, or as large as their fields, and affect to wonder they do not derive as much profit from making pork as some of their neighbors, who manage things differently. A pig must be kept comfortable, as well as well fed, if the farmer would have the full profit of the materials fed out. Pens, where a farmer feeds several hundred hogs, as many of those of the west do, would perhaps be impracticable, or from the low price of pork and the cost of building materials, unprofitable. There the farmer divides his hundred acres of corn into ten or twenty acre fields. When the corn is ripe, his hogs, numerous in proportion to the acres of corn on which they are to be fed, are turned into one of his fields, and gather the corn for themselves; and this they soon become expert in doing. When the first field is cleaned, the hogs are let into another, and so in succession until the whole is devoured, when, if the fields have not been overstocked, they will be fit to be driven to market. This mode of feeding would, however, be ruinous to a large majority of the farmers in the United States, and a more economical method of fattening must be adopted. A hog house then, with fixtures for preparing their food by steaming or boiling, and attached pens and yards for the use of the swine, are indispensable where much profits in making pork are expected. In arranging the pens, particular reference should be had to the convenience of feeding, and the comfort of the animal. The pen itself should be warm and dry, and the bed free from dirt or manure. Hogs love to have dirt at their pleasure, but no hog wishes to live in it constantly. Experience would seem to show that the more quiet a hog is, and the less he is permitted to exercise his locomotive powers, the faster he will fatten; and hence in many parts of Great Britain, it has become common to give each pig a separate stall, so arranged that he is completely separated from all others, has his part of the trough and his feed entirely to himself, and is not disturbed by the intrusion or voracity of his fellow grunters. These stalls are so narrow that the hog cannot turn in them, and whether he lies or stands, it is always with his head to the trough. The floor is kept clean by slanting backwards, where a sliding board or door, enables a man with a hoe to remove whatever filth or dung may have accumulated in the stall. The following cut will give a front view of a section of these stalls, the board before the troughs removed to show the position of the animals.



[*Pig Stall*—Fig. 91.]

Where a number of hogs feed together at the same trough, there are some among them that usually monopolize an undue proportion of the food and of the trough, (in this attempt at monopoly has the genus *sus* been instructed by the genus *homo?*) and to prevent this, some place erect pins in front of the trough, the upper parts secured in a piece of timber parallel with the trough, which will prevent a good deal of this tyrannical usurpation; while others, to accomplish the same end, put wooden pins across the top of the trough, which will prevent the master or mistress of the stye from inserting their nose at one end, and with a single sweep clearing the whole. It is an excellent plan to have the troughs fitted with a board in such a way, that the hogs can be shut from it while the attendant is replenishing it. This may easily be done, by having one suspended over the trough by hinges, or otherwise, in such a manner that it can at pleasure be swung forward and secured, shutting the porkers from the trough or backwards, to allow their access.

A large part of the expense of feeding and fattening swine may be made up to the feeder, if proper arrangements are made about the pen and yard, to have the full benefit of the manure made by the pigs. The value of hog manure is so well known, that it is unnecessary to say a word in its favor here. For corn, it is so far beyond all others we have tried, that for that crop as well as others it may be considered invaluable. Give them a chance, and each pig that is fattened will make at least two loads of good manure. To do this, their pens and yards must be frequently covered lightly with horse littering, for them to root over and work upon. The yards attached must retain the urine and wash of the pens, and into this, with the straw mentioned, should be put an occasional load of muck, weeds, wash of the roads, or almost any substance hogs will work upon, and which will retain the salts and volatile parts of the manure now generally lost. If the porkers do not seem inclined to root over and incorporate the mass, fling over it a few handfuls of corn or barley, and they will soon mix it to the bottom. Keep the pens clean, and keep the manure distributed over the yards. Follow these directions, and the farmer will find himself in the spring, in possession of a supply of manure, that applied to his corn in the hill, or otherwise, will give, in the increased crop, an ample reward for the extra labor incurred, in addition to the permanent benefit afforded the soil.

In making pork, the food used, and its preparation, is a most essential part of the process; for the most perfect pigs, and the best arranged pens, do not make first rate pork without plenty of good food. No good farmer ever attempts to see with how little food he can keep his animals, summer or winter, or fatten them; his object is to ascertain how good food can be most beneficially employed, and made the most profitable. Different substances are of very different values for fattening animals, although a sufficient supply of nearly any kind of food, will cause them to improve; this value in most kinds is very much increased by cooking, or other preparation. A few words will explain why cooked food is more nutritive, than that which is in a raw state. Raspail and Biot, by an able and curious series of experiments, proved that the nutritive power of any substance lies in the farinaceous globules, and that to be available, these globules must first have their envelop crushed, or otherwise ruptured. This is partially done by grinding, still more by mastication, but never so completely as by boiling, or subjection to an elevated temperature. In that case the matter in the globules expands, bursts the envelop, and of course is wholly appropriated to the purposes of nourishment. Experiments a thousand times repeated, demonstrate the justness of these conclusions, and prove that the man who attempts to fatten animals on uncooked food, overlooks the simplest principles of domestic economy. Roots and fruit are best cooked by steaming. A large proportion of the pork made at the present day, is partially or wholly fed on potatoes or apples. To give these with profit, steaming is indispensable; and the apparatus is as simple and cheap as it is efficient for doing this. A box or vat of the size required, is made of plank closely grooved and secured at the corners, on the bottom of which common sheet iron is thickly nailed, which will give the box the power of retaining water. This box with a tight lid, is placed on bars of iron over a fire flue, and the substances placed in this are quickly and fully cooked. Steamers made in this way are used for scalding hogs, and by some for making maple sugar. Steamers of a more costly and complicated kind, may be found described and figured in the previous pages of the Cultivator, and other journals.

In the United States, Indian corn may be considered the main article for feeding swine, although many other kinds of food are used, as circumstances may require. Corn, however, stands so decidedly at the head of all other substances used for making pork, wherever it can be grown, that the best method of feeding it becomes an object of national importance. It is most generally fed to pigs in the ear, frequently thrown upon the ground or the mud; practices far from economical. It is sometimes soaked in water until softened and swelled, or ground into meal and mixed up with water at the time of feeding. Either of these methods is preferable to feeding the grain to them in the ear; but in none of these ways do the hogs derive the full benefit of the corn given them. It should be ground and made into pudding by the addition of a large quantity of water, and long boiling. Should any one have doubts as to the great saving which would be effected by this preparation of corn, we think his doubts would be removed by an examination of the series of experiments made by Mr. Colman of Mass., and to be found in the Transactions of the Essex Co. Ag. Society for 1835, or the abridgment of them in the American Swine Breeder, by Mr. Ellsworth. The experiments of Mr. Colman have been repeated and varied many times with the same results, and one recorded in the first volume of the Farmer's Cabinet, made in the most satisfactory manner, shows that the saving of feeding hogs on pudding, over that of feeding on shelled corn, is fully equal to one half of the grain used. Some experiments made in feeding animals with meal made by grinding the corn and cob together, and cooking the whole, would seem to show, that the gain in this way was equal to one third of the grain used. This is not improbable, when it is recollected that where food contains large quantities of nutriment, more is usually taken into the stomach than can be appropriated, and is therefore lost. The stomach, to perform its functions completely, requires distention as well as nourishment; and it seems likely that the desired proportion between bulk and nutritive matter, is much more nearly gained by grinding the cob than using the grain without it. It is on the same principle that the oat is found better for the horse than any other grain; namely, because the relation between nutriment and the required bulk for distending the stomach, is better fulfilled in this grain than any other.

But though corn may be considered the best of all grains for making pork, there are others used, which are more or less valuable. In England, where corn is unknown, pork is made by feeding peas and barley ground together; and this is probably of all substances, the one that approaches nearest to corn in feeding swine. Roots are also extensively grown for this purpose; apples are very valuable; but whatever may be the article used to begin with, the feeding must be finished with grain or peas. There may be bulk without this, but solidity and sweetness will be wanting. It will resemble meat made at the distillery; the hams will lack firmness, the lard will be oily, the pork shrinks in cooking, or will not wear well. The best pork therefore, can only be made by the use of corn, peas, or barley; and this should be well understood and practiced upon by the farmer. But in the use of these materials and their preparation, much, if not all of the profit of feeding is depending; and in fattening twenty porkers, some farmers waste food enough to feed at least a quarter more if properly managed Let the man who wishes to take lessons in feeding pigs, visit a Shaker's establishment; let him see the attention with which their pens are littered; the neatness with which they are kept; the nicety with which the food is prepared and served out to them, and he will not be surprised at the thrift and condition of hogs so cared for, or the profit resulting from the process.

After hogs have reached a certain point of fatness, there is no profit in keeping them longer; for though they consume little food, they gain little in weight, and do not compensate for the care and trouble of feeding. It is true this point is not commonly reached in feeding swine; and more are killed before they have reached the point of greatest profit, (that is before they have become fully larded or their flesh solid,) than after that time. No small part of the goodness of pork depends upon the operation of killing and dressing; and these should receive strict attention. In bleeding a pig, some will so mangle the throat, and so hack and saw the shoulders with the knife, that more meat will be lost from its bloody state than would pay for dressing the animal in the best manner. Then the scalding and removal of the hair is so imperfectly done as to render every part of the rind a nuisance in cooking; whereas this part of dressing a pig should be performed with the greatest care, and finished in the most perfect manner. Two methods of removing the hair are practiced in England. In one, the part of the animal to be scalded is covered with a thick woollen cloth, and this is kept

saturated with hot water till the hair and scurf comes off easily and smoothly, and this process is continued by removing the cloth till the whole is finished. In those parts of that country celebrated for their bacon, as Hampshire and Lincolnshire, the animal, instead of being scalded, is singed. He is laid on his side, covered with dry straw, which is burned off, and the operation is repeated until the hair is destroyed. The reason given for this is, that scalding softens the skin, and renders it impossible to make the pork into bacon of the best quality. In this country, scalding is universally practiced, and is generally performed in a tub or kettle, and if effectually performed, is perhaps the best way on the whole, that can be adopted.

After a hog is killed and dressed, the operations of salting and packing are to be performed, and on these much are depending. Hogs should never freeze before cutting up, but should be thoroughly cooled before cutting and salting. If they hang out all night, unless there is danger of freezing, they will cut up better, take the salt well, and make far sweeter pork, than if the operation of cutting and salting is hurried through before there has been time to cool. Heavy, thick hogs, require particular attention to being spread open, or there is great danger of their spoiling in the thickest part near the back bone. We have known fine hogs, so injured in this way, by a little haste in taking them down, and not airing them fully, that they were lost to the grower. Be particular then, that your hogs cool well. Before commencing operations, it is necessary that every thing be in order for packing; that the tubs and barrels are perfectly tight; that the salt be of the best quality and in abundance; and then the pork may be cut according to the purpose of the proprietor, whether intended for bacon, barreling, or domestic use.

None but good salt should be used in packing pork. Rock salt, or Onondaga coarse salt is the best, and where they can be obtained, should always have the perference. The common salt of Onondaga or Kenhawa, or Turks Island, will do very well, but all of these have some impurities, that more or less injuriously affect the meat. Perhaps there is no salt superior to the Onondaga coarse salt, or that made by evaporation, for any purpose where strength and purity are the main considerations. At Cincinnatti, the great pork market of the United States, 50 lbs. of Turks Island salt is allowed to a barrel, or 200 lbs. of pork; and in addition to this, salt added to water to the point of saturation, or strong brine, is used to fill the barrels after heading. Of rock salt, or Onondaga coarse, from half a bushel to three pecks is used for 300 lbs., the barrels to be afterwards filled with saturated brine.

Almost every farmer has his own method of cutting up his hogs, and packing them; while the law prescribes the manner of packing when intended for the market; and multitudes of recipes for pickling pork or hams may be found in the agricultural and other publications of the day. In Europe, the Russian pork bears a high price; and its quality is supposed to be owing to the pickle in which it is preserved. This is called the "Empress of Russia's Brine," and is prepared as follows:—"Boil together over a gentle fire six pounds of common salt, (that in most common use in Russia, is rock salt,) two pounds of powdered loaf sugar, three ounces of salt petre, and three gallons of spring or pure water. Skim it while boiling, and when quite cold, pour it over the meat, every part of which must be covered with the brine. Small pork will be sufficiently cured in four or five days; hams intended for drying, in two weeks, unless they are very large. This pickle may be used again and again, if it be fresh boiled up with a small addition to the ingredients. Before putting the meat into the brine, wash it in water, press out the blood, and wipe it clean."

Pickling tubs should be larger at the bottom than at top, by which means when well packed, the pork will retain its place until the last layer is exhausted. When the pork is cool, it may be cut up, the hams and shoulders reserved for bacon, and the remainder salted. Cover the bottom of the tub or barrel with rock salt, and on it place a layer of meat, and so on till the tub is filled. Use the salt liberally, and fill the barrel with strong brine, boiled and skimmed, and then cooled. The following method of preparing hams and shoulders is a good one; as many who have tried it in substance, can testify.

To ascertain the probable weight of the meat to be prepared, weigh a number of the hams and shoulders. Then pack them with rock salt in a suitable tub or cask, being careful not to lay the flat sides of the large pieces upon each other, and filling the intervals with hocks, jowls, &c. To every 300 lbs. of meat, then take twenty lbs. of rock salt, or Onondaga coarse salt, one lb. of saltpetre, and fourteen lbs. of brown sugar, or half a gallon of good molasses, and as much water (pure spring water is the best) as will cover the meat; put the whole in a clean vessel, boil and scum; then set it aside to cool, and pour it on the meat till the whole is covered some three or four inches. Hams weighing from 12 to 15 lbs. must lie in this pickle about five weeks; from 15 to 25 lbs. six weeks; from 25 to 45 lbs. seven weeks. On taking them out, soak them in cold water two or three hours to remove the surface salt; then wipe and dry them. It is a good plan in cutting up to take off the feet and hocks with a saw instead of an axe, as it leaves a smooth surface, and no fractures for the lodgment of the fly. Some make only six pieces of a trimmed hog for salting; but it is more convenient when intended for domestic use to have the side pork as it is called, cut in smaller pieces.

The goodness of hams and shoulders, and their preservation, depends greatly on their smoking, as well as salting. Owing to some misconstruction of the smoke-house, to the surface of the meat not being properly freed from saline matter, or other causes, it not unfrequently happens that during the process of smoking, the meat is constantly moist, and imbibes a pyroligneous acid taste and smell, destructive of its good qualities. The requisites of a smoke house are, that it should be perfectly dry; not warmed by the fire that makes the smoke; so far from the fire that any vapor thrown off in the smoke may be condensed before reaching the meat; so close as to exclude all flies, mice, &c., and yet capable of ventilation and escape of smoke. The Westphalian hams are the most celebrated in Europe, principally cured at and exported from Hamburg. The smoking of these is performed in extensive chambers in the upper stories of high buildings, some of four or five stories; and the smoke is conveyed to these rooms from fires in the cellar, through tubes on which the vapor is condensed and the heat absorbed, so that the smoke is both dry and cool when it comes in contact with the meat. They are thus kept perfectly dry, and acquire a color and flavor unknown to those smoked in the common method. Hams after being smoked may be kept any length of time, by being packed in dry ashes, powdered charcoal, or by being kept in the smoke house if that is secure against the fly, or a smoke is made under them once a week. When meat is fully smoked and dried, it may be kept hung up in any dry room, by slipping over it a cotton bag, the neck of which is closely tied around the string which supports the meat, and thus excludes the bacon bug, fly, &c. The small part of a ham, shoulder, &c., should always be hung downwards in the process of smoking, or when suspended for preservation.

Agriculture in Canada—Buel's Address.

There is, among many individuals, an impression that Canada is unsuitable for most of the operations of agriculture; that its climate forbids improvement, and that it may as well be abandoned at once to the perpetual reign of frost and famine. This is a most mistaken opinion. A glance at the map will show that so far as climate is concerned, it is as favorably situated as several of the states; an acquaintance with its geological structure would prove that a large portion of Canada,—that part bordering on the Ontario and Erie particularly,—had the same general character in its formations, as the most fertile parts of New-York; and an examination of the actual state of agriculture in many parts would make it apparent, that not only had the best breeds of cattle, sheep, and swine been introduced, but that in spite of all the difficulties with which agriculture has had to contend, in consequence of the unsettled state of affairs in those provinces for the past few years, great advances have been made, and the most approved implements and methods of culture are in successful operation. A return of more peaceful times, has given a new impulse to the friends of good farming, and the formation or re-organization of several agricultural societies, those sure precursors of improvement, has already taken place. As conductors of an agricultural journal, we find another decisive proof of the increasing interest taken in the cultivation of the soil by the intelligent farmers of Canada, in the great increase of our circulation in those provinces within the past year.

We have before us an address delivered before the "District of Johnstown Agricultural Society," by Wm. O. Buel, Esq. and which both in matter and manner is worthy of the important subjects discussed. These relate to agriculture itself; to its condition in the district embraced by the society; and the suggestion of such means of improvement in husbandry as seemed best adapted to the country. We should be pleased to extract liberally, but our limits forbid. As specimens we give one or two detached paragraphs. In treating of the best methods of improvement he says:—"But agriculture too is progressing by the assistance of science in good old England, as also in the United States. The efforts made by the learned, by agricultural associations, by experiment, are working wonders. The spirit has not yet pervaded our own beloved land. The way to begin the work is to get up and encourage a cheap periodical publication, and let every man feel it his duty to extend its circulation. This is a most powerful and effective means of doing good; it is no experiment, it has been tried, and bears the impress of wisdom upon the face of it. Meanwhile the farmer—every farmer—no exceptions—should be supplied with an agricultural paper." After naming the *Albany Cultivator* as a valuable and cheap publication, he adds, "there may soon be a *Canadian Cultivator*." This last is an important suggestion. The farmers of the two Canadas ought to give such a paper an efficient support, and we *know* there is talent enough to make a most able and interesting journal.

There is much truth in the following remarks. Let every farmer read and remember. "It is easy to tell a good farmer by the appearance of his place and it is always a blessing to a neighborhood to have such in its midst. People will learn many things from him, without being, as it were, aware of it; they will learn in spite of themselves; his example and success *will* influence them. Now what I wish to say is, that whenever you hear of a *good farmer*, inquire all about him, about his farm, what stock he keeps, what grain he raises, how far he is from market, of his whole management; ask about his family; in short in your own minds, become thoroughly acquainted with him; and if you find any thing worth remembering, which cannot fail to be the case, remember it; any thing worth following, follow it. You need not *wait* to hear of a man of this kind, but when you meet with another farmer from a distant neighborhood, ask who is the best farmer, and so on. Every neighborhood, your own for instance, has some farmers better than others,—now *why are they better?* make the inquiry; trace the thing to the bottom—it may do you much good."

TOBACCO.

One of the great staple productions of this country, particularly of the southern and western part, is tobacco; and great as is the amount now produced, it is evident that if the market abroad was not so fettered and clogged with vexatious restrictions, and such enormous duties, a far greater quantity might be readily grown. In Europe, it seems to be a favorite object for excessive taxation in nearly every government; and at the great meeting of tobacco planters last May, it was shown from authentic documents, that on an export of 100,000 hogsheads, valued here at seven millions of dollars, a duty was paid by the consumers in the various countries of Europe, of more than thirty millions of dollars. As a matter of interest to many of our readers, we copy or condense from the report of that body, the amount of tobacco exported to the European countries respectively, or the most prominent ones:

Countries.	*Export of Tobacco in Hhds.*	*Tax per lb.*
Russia,	358	
Holland,	3,300	13 cts.
Belgium,	6,000	24 "
Great Britain,	28,772	72½ "
France,	12,000	
Spain,	5,700	
Portugal,	363	
Italian States,	2,000	
Austria,	4,000	

The remainder of the 100,000 hogsheads is distributed through the German states, Sardinia, Hungary, &c. &c. We have been unable to ascertain the precise duties paid in all cases, but the enormous rates of those ascertained, and the fact that the tobacco import is in most of the countries of Europe farmed out for a stipulated sum, renders it certain that while none are below what is here named, some of the highest much exceed the almost prohibitory imposts of Great Britain. A duty of 800 per cent, such as England imposes on our tobacco, is an anomaly in the history of trade; and which, under all circumstances, may be deemed positively unjust. Wheat they can grow to any extent, and we must expect them to protect their own agriculture. Tobacco they cannot grow; it is an article of almost universal consumption; and their scale of duties is such as to be felt, not only by every consumer of tobacco in the British empire, but on the sources of Green River or the Miami. Free trade is a good thing; but we have some misgivings about the propriety of that trade in which all the freedom is on one side.

The culture of tobacco is every year extending itself in the western states, and promises to become a most important article of export from the rich districts north and south of the Ohio. That tobacco can be grown in Indiana, Ohio, Kentucky, and Tennessee, with a profit greater than that attending the culture of wheat and corn, seems certain; and we doubt not that as the cultivation progresses, and the better methods of curing are adopted, the tobacco of the new states will rival in quality and celebrity that of the old. The plants on new land grow more luxuriantly than on soils cultivated for any considerable time; but experience proves that the quality is not so fine. The best tobacco in any country, is grown on lands in good condition, but not extravagantly rich, or highly manured.

CENSUS OF AGRICULTURE.

The results of this excellent measure undertaken by the United States, are beginning to show themselves in various reports from single towns or counties which are reaching us, and exhibit an amount of product in the agricultural districts, of immense amount and value. The census of 1840 will be an era in the history of American agriculture; and will furnish a more correct view of our country,—our whole country, in this respect than has ever been given. The conception was a happy one, and though it cannot be expected to be perfectly accurate in all its parts, it will be so, as far perhaps, as such an extended investigation, and a first one, can be expected to be. So far as we have been able to learn, the amount of grain, particularly wheat and corn, produced, has exceeded the expectations of all, and demonstrated that in growing the staff of life, the United States are not behind any country on the globe. The value of the bread crops of the north, will, when thus ascertained, serve to correct an error into which some of our political economists appear to have fallen, in comparing the value of the products of different parts of our country. There can be no doubt that the tables which will be provided from these returns, will furnish abundant matter for the consideration of the statesman as well as the agriculturist; and as little that the example now first set of such an enumeration of the products of labor, will be followed at each succeeding census of this great nation.

Work for the Month.

Care of Stock in Winter.

From December until April in our northern climate, and in a greater or less degree in more southern ones, the great business of the farmer consists in the care of his domestic animals. One of the great sources of loss to the farmer is the wretched condition in which his animals are frequently kept: their wool, their milk, and their ability to labor being in a great measure determined by their mode of keeping during the winter. Without shelter, without water, without food, or at best an irregular and partial supply, it must be expected that disease will invade his flocks and herds, and occasion losses that months of hard labor will be required to counterbalance.

At the commencement of winter, the farmer should carefully examine the condition of all his animals; ascertain whether any are unwell, weak, low in flesh, and the cause. Such animals require particular attention. One diseased animal may infect a hundred when brought into close contact with them; a weak poor animal will fare worse with a number than alone, and the chances of getting through the winter are proportionably abridged; and all such must have good care and attention, or there will be a total loss. If there is one truth respecting animals more deserving of remembrance than another, it is that the animal entering the winter months in high condition is already half wintered; that is, the care and food required to bring him out well and hearty in the spring, will not be one half as much as will be required by the one that commences winter, spring poor. A fat, strong animal, will be warm and comfortable, where a poor, weak one can hardly live, and the hearty vigorous one will digest and assimilate food which the weak one would scarcely taste. All weak and sickly animals at any season of the year, and particularly in the winter, should be kept by themselves, and receive the best care, and the best keeping possible.

Shelter for animals is a point too often neglected by farmers. Their sheep or cattle are left to find the warm side of a stack or fence, during our winter storms of snow or rain as they best can; and when the former die off by the dozen in March, or his cows are "on the lift" for a month or two in the spring, the owner affects to wonder at the cause, or why his neighbor who has good sheds is not as unlucky as himself. Domestic animals must have a shelter; it is as necessary for them as it is for man, and one may as well talk of comfort without it as the other. Few things are more trying to the man who has a soul, than to see a flock of sheep crouching in a corner of the fence half buried in snow; a few lean cows, their feet so drawn together by cold and hunger that all might stand in a half bushel; half a dozen swine of the alligator breed, squealing, and their noses imploringly turned to the place where the trough should be; and the same air of discomfort and misery pervading every thing on the premises. Where animals are kept in this way we instinctively expect to find the windows of the house stuffed with cloaks and old hats, and the owner at the fire side of the nearest tavern or grog-shop, and rarely will such expectation be disappointed. It is very true much less attention was paid to the shelter of animals than now, and it is equally true that the difference in the mode of keeping was not greater than that existing in the wool, size, maturity and value of the respective animals.

Water is another essential thing in the winter management of animals, but it is a thing more frequently neglected than almost any other matter connected with their comfort. Cattle are often allowed during the severest storms to go half a mile to drink, and require a good feed and an hour in a warm stable to counteract the effects of the labor of wallowing through the snow. In addition to this, their drink is frequently found in a slough, and the animal is covered to the knees in mud, which is left to freeze, stiffen the legs, and by retarding the circulation cause their freezing. It is no disadvantage to cattle to go a suitable distance to water, but rather a benefit, as promoting circulation in the feet, and thus preventing diseases of the extremities, but the place of resort should be free from mud, and room for the animals to approach without crowding or fighting. Sheep are almost universally the victims of neglect in respect to water; while, although they *can* live without it, water is as essential to their comfort, and used by them as constantly, as it is by cattle. There are few farms on which with a very little expense plenty of water may not be had sufficiently near the barn for all the purposes of stock; and where buildings are to be erected, particular reference should be had to this point.

Animals should be salted in the winter with the greatest attention and regularity. Farmers are too careless about this in summer, and are apt to neglect it altogether in winter, a course which requires reformation at once. It is necessary for their health, gives an appetite, and summer or winter they should always have access to salt. Where a farmer has no sheds or troughs for salting, the best way is to make a strong brine and sprinkle it over the hay, straw, or other fodder they are to receive. Such food will be eaten more cleanly, and there will be no waste of the salt.

Regularity in foddering or feeding all animals, is very necessary. Experience has shown that a given quantity of food will keep an animal in much better condition when fed to them at regular hours, than when given to them without order and at haphazard. In the former case the animal in the intervals of feeding is quiet; he has taken his meals and is expecting nothing more until the stated hour arrives, for all animals soon acquire the habit of computing time quite accurately; in the latter case he is continually restless and uneasy, bleating, bellowing, or squealing, and wasting what nourishment he receives, in expectations and efforts to obtain more. Feed your cattle regularly then, whatever may be the kind of food. This half starving animals, feeding them as it suits your convenience, keeping them without salt or water, and thinking they can get along without shelter, is bad policy, and should be repudiated at once, by every man who would be merciful to his beast, or find in his pocket satisfactory evidence that keeping stock is not a losing business.

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Preparation of Fire Wood.

Another thing to be attended to in the winter, is the getting of wood for the year. This work must not be put off till the last of the season, since if this is the case, the farmer has too often the pleasure of drawing his wood a *jag* at a time, and finding when he comes to cut it, (perhaps when he should be haying or reaping,) that it is so filled with gravel, that his axe will require grinding after each operation. The wood-house must be filled in the winter for the next season's use, that green wood, and smoke, and the sour looks of the good woman, and the delay incident to bad wood and worse fires may be avoided. Where a saving of fuel is desirable, and this is decidedly the case with most farmers in this country, it is better to use the saw in preference to the axe as far as is practicable. But where the axe is used, care should be taken to gather up the chips if the wood is cut in the wood lot instead of the yard, as we have found by experience, that a chopper in cutting up three cords of four feet wood will make a full wagon load of chips, which for many purposes are the most valuable part of the wood, and too frequently now wholly lost for the use of fuel.

Where there is no wood-house the fuel should be drawn, split, and closely piled in such a way that a roof of boards may be placed over it to protect the wood from the weather while seasoning, and after it is dried. The difference between protected wood and that exposed, is nearly as great as that between wood made from green trees and from dead ones. The more hard, heavy, and sound fire wood is, the better it will be when dried, and the least decay or exposure to the elements after cutting, is prejudicial. Some have contended that part of green wood is preferable to having it wholly dry. This is a decided mistake; as the experiments of Count Rumford proved, that the difference in the heat given out, was precisely equal to that required to evaporate the same quantity of water as was contained in the green wood.

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Improvement of the Mind.

And now, when your animals, and every thing without doors is well and snugly cared for, is the time during the winter evenings, and days when the storm confines you to your homes, to store the mind with useful knowledge, and avail yourself of the means of educating and schooling the man as well as the child, which happily are within the reach of every American citizen. Books, magazines, papers, on all subjects and in profusion, exist; New-York and Massachusetts have placed excellent collections within the reach of every one; and the whole genius of our institutions, the history of our most distinguished men, and the undisputed advantages of knowledge, invite to a perusal. The demand is made upon the farmer as well as others, and none can be more interested in the acquisition than he. The successful prosecution of his business, the duty owed to himself and his country; the necessity of intelligence to the continuance of our institutions; all require and force upon the farmer, the propriety of employing every leisure hour in strengthening and improving the mind.

There are many who seem to suppose that where the man or woman has learned to read and write, or mastered perfectly the rudiments of education, the work is done, and he has nothing more to think of in the way of learning. This is a serious mistake; and it is as fatal to the liberally educated, and as common to them, as to him whose learning has been gained at the district school. When the boy or the man leaves the school or the college, they are not educated, however great may have been their acquirements. The means only have been gained of obtaining an education, and without their continued use and unwearied application, a man may live many years very learned, and die at last little better than a fool. It is this education of the mind, the turning of knowledge to practical uses, which has marked the rise of the greatest men in this or any other country. Read, then, acquire knowledge, use it faithfully, and be an honor to your country. On the use you make of your winters, much is depending, and the work of educating the mind is one that cannot be neglected with impunity.

As every farmer should keep a record of his farming operations, the account of his receipts and expenditures, and the manner in which his course of cropping has been conducted, the close of the year or the winter forms an excellent time for examining it carefully, and correcting any errors in practice that may be discovered. Especially look over your list of purchases (it is to be hoped you did not run in debt for any thing,) and see whether any useless articles were purchased, a course to be strictly guarded against in future. Never buy a thing you do not want, however cheap it may be, for if this is done, you will soon find yourself unable to obtain the articles you need. The Farmer's Book is an essential part of every farming establishment, useful in many respects, and by no means to be overlooked. One half of the failures and mishaps of life, arise from a neglect of the past, and the lessons it teaches. It is the part of the wise to profit by these, to know and shun past errors in a future course; and to do this such a record is indispensable. Years are the monuments that mark our course; their lapse should show the lessons each one must have taught, have not been in vain.

MEETINGS OF AGRICULTURAL SOCIETIES.

In our last number, we gave notices of the meetings of the Ohio State Agricultural Society, the Farmer's Agricultural Society, the Rochester Cattle Show and Fair, the Berkshire Agricultural Society, the Oswego Ag. Society, and we this month continue such notices, feeling as we do that few things will be more interesting to farmers generally, than such records. For ourselves, we regard the new impulse which such associations have received, their rapid increase, and the spirit and success which has this year attended them, as one of the most promising signs of the times, and only regret that our limits prevent us from doing as ample justice to them as would be desirable. The notices we are receiving are so numerous that we are compelled to condense and abbreviate as much as possible the various interesting details with which the reports abound.

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Worcester Agricultural Society.

It is estimated that not less than twelve thousand persons assembled on the 14th of Oct. at Worcester, to celebrate the 21st annual meeting of that central institution of the Old Bay State, and never have the proceedings been conducted in a better feeling or spirit, than in the present instance. The editors of a number of the N. England Agricultural Journals were in attendance, and gentlemen of eminence from various parts of the country. It was a neutral ground on which political partizans, if they did not forget their preferences, forbore discussion or contest; and party and sect were lost sight of for a time in the stirring incidents of the day.

The show of animals was very fine; and the following table will show the rapid increase, in the number of animals exhibited, for a few of the past years:

Years,.....	1819,	'34,	'35,	'36,	'37,	'38,	'39,	'40,
Animals shown,	133,	269,	259,	276,	311,	342,	415,	540.

We do not recollect an instance in this country where so great a number of animals have been shown at a fair as this; and should it continue to "go ahead," as we trust it will, it will soon in its animal department, rival the most celebrated societies of Europe. The plowing match went off admirably, and the show of domestic manufactured articles, particularly the ladies' department was good. The reports of the different committees at the Worcester Fair, have long been celebrated, and various "lots" of swine have been immortalized, in the reports drawn up by the "elder and younger Lincoln." The dinner was good, the weather fine, the animals capital, and Worcester may well be proud of her fair for 1840.

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Onondaga Cattle Show and Fair.

The second meeting of the Onondaga Co. Society was held at Syracuse, on the 7th of Oct. and was attended by a large number of the farmers and others of the county. There was a superior show of cattle, horses, sheep and swine, to the number of between two and three hundred; a number of sales of valuable stock were made on the spot; while the spirit manifested was such as to furnish encouragement to the friends of agricultural improvment to renewed exertions. The improved breeds of animals were well represented; the department of domestic industry was well sustained; the show of vegetables was good, and the kinds numerous; and that part devoted to the ladies' offerings did honor to the fair hands and patriotic hearts that presented them.

The position of Onondaga County is most favorable to the success of such an association, and it should be improved to the utmost. Its central location; its numerous and industrious population; its ample agricultural, mineral, and manufacturing resources, decidedly mark it as a county where an agricultural society should flourish and prosper abundantly. Such we cannot doubt will be the result from the spirited beginning already made.

A number of premiums were awarded for the best cattle, sheep, horses and swine, and a large number of choice animals were exhibited, upon which no premium was claimed. By the kindness of a friend of the society, a number of volumes of the Cultivator were presented as premiums or gratuities; and we would here remark that we highly approve of the proposition or remarks of Mr. Bement, in his notice of the Berkshire cattle show in our last number, and believe that all societies would find it much to the advantage of all, if, instead of the distribution of small sums in cash, valuable agricultural journals or works were selected for such purpose. The State Ag. Society of Rhode Island, has annually distributed as premiums a large number of such volumes, and the most beneficial results have followed. Where the volumes of a periodical have been chosen, the arrangement respecting prices would of course be satisfactory to all. We hope the managers of our societies will take this matter into consideration in deciding upon their premiums in coming years.

A very able and appropriate address, distinguished by the sound, practical, common sense views of the

author, was delivered by the president of the society, JOHN SANFORD, Esq. A number of valuable reports were made on the culture of particular crops and farm management generally, some of which we hope to be able to lay before our readers.

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Ontario Agricultural Society.

This society has been organized within the present year, and held its first meeting at Canandaigua on the 20th of Oct. From the manner in which the farmers of this rich and flourishing county engaged in the matter, the talent and wealth as well as public spirit of the gentlemen embraced in its board of managers, we were convinced the association would be an honor to old Ontario, and this first report, which by order of the society has been forwarded us, proves we have not been mistaken. Although organized so recently, the attendance of members and others, was larger than had ever attended the meetings of the former society, which existed in that county some twenty years since. The bulls, cows, oxen and calves, were of a superior order, and showed that the attention of the farmers of Ontario, had not been directed to the improvement of their stock in vain. The plowing match limited this year to ox teams, was well contested, and exhibited a fine display of practical skill in the plowmen. The show of corn, wheat, roots, and vegetables generally was good; and a variety of agricultural implements and machines were on the ground.

We notice a few of the premiums awarded:

To Charles B. Meek of Canandaigua, for the two best acres of wheat, 45¼ bushels per acre, $10. To Bani Bradley, of East Bloomfield, for the two best acres of Indian corn, 116 bushels per acre, $8. To Bani Bradley, of East Bloomfield, for the two best acres of oats, 77½ bushels per acre, $6. To Francis I. Paul, of Canandaigua, for the two best acres of peas, 38 bushels per acre, $3. To Charles B. Meek, of Canandaigua, for the best half acre of ruta baga, 880 bushels per acre, $3. To Charles Godfrey, of Seneca, for the ox team that plowed ¼ acre best within an hour, $8. To William Ottley, of Phelps, for the greatest quantity of useful articles manufactured in any family, and by females, from wool, cotton, flax, hemp, tow or silk, $10. To Harlow Monson, of East Bloomfield, for the greatest quantity of reeled silk, raised by any female, $10.

The address was delivered by JOHN RANKINE, Esq. and as the production of a practical and scientific farmer, was listened to with great interest, and by a vote of the society, was to be printed for the use of the members.

The officers of the society, and the managers for the ensuing year, appointed at this meeting, give the most ample assurance, that in the progress of its society, Ontario will not be behind any association in the State.

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Agricultural Fair of Cortland Co.

The annual Fair of the Cortland Agricultural Association was held at Homer, on the 7th of October, and was very numerously attended by the enterprising farmers and others of that county, as well as by several gentlemen from other sections of the state. The day was fine, the multitude were in good spirits, smiles were on the faces of all, and this annual holiday was pronounced a proud one for Cortland. The show of animals, particularly young ones, surpassed that of any previous year, and afforded the most gratifying evidences of improvement in the important department of cattle husbandry.

The number of cattle amounted to 160 head, horses 12, sheep 80, and swine over 100. The cattle exhibited, were by far the greater portion of them, and nearly all of those below three years old, crosses between the Short Horn and the native cattle. Some beautiful specimens of pure bred Devons, from the stock of John Cowles, Esq. were shown, and their fine proportion and rich color, so unlike the "miserable, heavy buttocked Yorkshires," which have obtained the name of Devonshires in many parts of our country, attracted much admiration. Some fine animals of a cross between the Short Horn and the Devon, particularly a six year old bull, bred by the Rev. Henry Berry of England. The bulls standing first in each of the three classes, were all of a cross between the Short Horn and the New-Leicesters, and their silky coats, and nice handling properties were much noticed and admired. The native stock of cows and working cattle exhibited, showed "that though the American farmer may find it expedient to resort to foreign *crosses*, he has the proper material to *build upon* already in his possession."

Of the swine exhibited, some were specimens of very good Berkshires, but the show was not as good in this respect, as it is hoped it will be another year. Some native sows of large size with litters of Berkshire pigs, well illustrated the value of such a cross; and two large white boars of the Hampshire breed, were great favorites with the advocates of large hogs.

The different varieties of sheep were well represented, and the specimens of Merino, Saxon, Bakewell, and South Downs, attracted much notice. A flock of thirty ewes offered for exhibition only, presented a fine combination of the points desired by the wool grower, viz superiority in quantity and quality of fleece, with a size of carcass and form indicating a vigorous constitution. They were understood to be a cross between the Merino and Saxon.

The show of vegetable products, such as beets, turneps, and corn, and cheese and butter were unusually good, and proved that few if any counties could excel Cortland in these respects. The society was ably addressed by SAMUEL GRIGGS, Esq. well known as an able and practical farmer. Cortland has set a noble example to her sister counties, in her efforts to improve her stock, and she is now beginning to reap a rich reward. Let others go and do likewise.

COTTON.

Every one is aware of the vast importance of this article to our country. It is the basis of the most extensive of our manufactures; it constitutes the grand article of export, and whether viewed in its connexion with our prosperity at home, or our financial relations abroad, assumes an importance second to no other production of our soil, not essential to positive subsistence. It is not to be wondered at, therefore, that every thing relating to it, or remotely connected with its growth, should be narrowly watched, particularly by those states most interested in its production. At present, the United States produces more cotton for the market than all the rest of the world, a circumstance not altogether owing to our more favorable soil or climate; but because we have invented and adopted improvements to which the cotton growers of other countries are strangers; and because our citizens are at liberty to follow those pursuits they deem most conducive to their interests without the dictation or interference of government.

Considerable quantities of cotton have long been grown in India, in Brazil, and lately in Egypt; but not in a sufficient amount to seriously interfere with our prices or product. The population of the Brazils is not sufficient to compete with ours in the cotton markets of Great Britain, France, and Germany; in Egypt the territory capable of growing cotton is not sufficiently extensive to interfere with our sales materially; and the unsettled state of that region forbids that great cultivator, Mehemet Ali, from making the most of the territory he does possess; in India there are no assignable limits to the population that may be employed in the culture, or to the soil suitable for its growth; and it is to this point, therefore, that America may reasonably look for a rival in the cotton trade, should one arise. India, too, is under the oppressive control of the greatest cotton using and manufacturing nation of the world; and one which has every inducement to establish and forward its culture by every means in its power. For hundreds of years, cotton has been produced and manufactured in India, but no attention has been paid to improving the quality, facilitating its production, or preparing it for market or manufacture. The wretched population have been compelled to grow only such things as their taskmasters preferred, and this to a very great extent, has been opium for the China market. Only as much rice has been cultivated as was deemed necessary to avoid famine, and in several instances a failure of that crop has caused the starvation and death of millions. For a few years, however, the attention of British statesmen has been directed to the cultivation of cotton in their India possessions, and agents have been employed to collect such information and arrange such facts, as would best enable them to act efficiently and decidedly.

In carrying out this plan, the improvements made in the United States in ginning, or cleaning and packing cotton, required a full investigation; and the last season an English gentleman by the name of Baylies, has been exploring the cotton states, examining the soils minutely and accurately, ascertaining the peculiarities of climate and temperature, making himself acquainted with the whole process of growing cotton from the preparation of the soil and planting the seed, to the cleaning and packing of the fibre, and collecting and comparing the various seeds and products of the several kinds of cotton grown in this country. In the farther execution of the intentions of his employers, he has engaged the services of ten or twelve intelligent and practical cotton growers, men thoroughly acquainted with every step in the process, who have sailed with him for England, eventually to proceed to Surat, or other points in India, to commence plantations in the American style. A large collection of the best machinery, such as gins, gin stands, and all the implements for cleaning cotton, have also been purchased and forwarded with the same destination. The government has appropriated some sixty thousand dollars for the purpose of pushing forward the undertaking; and there can be little doubt that it is determined to make a vigorous effort to introduce the cotton cultivation on an extended scale in India. That it will succeed, can scarcely be doubted. Both the climate and the soil are favorable to it; this the experience of ages has demonstrated. The average price of labor in that country is only about two dollars per month, or from $24 to $30 a year, while in our cotton states a good slave hand will command from $10 to $15 per month, or $150 per year; this difference will give an advantage the English seem prepared to appreciate. In forming correct conclusions on this point it must be remembered that the cotton business of this country has grown up within comparatively a few years to its present immense magnitude; that the British start in the competition at the point which we have so long toiled in reaching; that the implements we have invented are now the property of the world; and that in a period of twenty years, England can if she will, produce in India, cotton to supply her manufactories, and control the cotton trade of the world.

Under these circumstances, the question becomes a perfectly proper one, and one we have seen not unfrequently asked in southern journals, what effect the carrying out of the British project would have on the cotton growing states? The answer to this has usually been, that it would be destructive to the prosperity of the South. We are inclined to dissent from this opinion altogether. We do not believe the fate of this great nation is depending on any single product of her soil, however important that one may be. It is true, less cotton would be required for exportation and more would be wanted at home. It is not reasonable to suppose that if Great Britain should exclude our cotton, as she certainly would do, could she produce it in her own dominions, that we should allow her to send us those cotton goods we now receive from her, but which we might, were it not for the sake of the exchange, just as well manufacture at home. To precisely the extent therefore that we now receive cotton goods from England, should we increase our consumption of the raw material here; and as the supply of the English market would not effect that of the rest of Europe, the falling off must be comparatively limited.

There is besides another branch of industry most admirably adapted to the south, which might well take the place of the culture of cotton to a considerable extent, and we believe, even at the present time, with decided advantage. That business is the culture of silk, and to supply the already existing demand would require no inconsiderable part of the population and capital now engaged in growing cotton. Neither silk or cotton can be grown in Europe, except to a limited extent, and the demand far exceeds the supply of the former, while the latter has already reached the point where the producer crowds the consumer. Under these circumstances, we cannot apprehend any serious injury to the country, even should the India government succeed to the extent of their wishes in producing cotton. Our resources are too ample; our productions too numerous and diversified; our climate and our country too various and extended; and our inventive and appropriative faculties too well developed to fear the rivalry of any nation whatever.

CIDER.

Apples may unquestionably in most cases be more profitably used than for conversion into cider; but as this liquor will still be drank in considerable quantities, and when used with food, and in moderation, if the history of the pilgrims may be cited as proof, cannot be very injurious to health or morals; it is certainly desirable that it should be made as unexceptionable as possible. There is much vile stuff used as cider, as well as of wines, beer, &c.; and in many instances the injury sustained by the drinker of cider, arises quite as much from the wretched state of the liquid, as from its reputed alcoholic qualities. The farmer or the mechanic does not now spend his long winter evenings in telling stories and drinking cider; more rational means of passing them have been provided; but there are many who take a glass of cider with their dinners, and such should see that they do not mix with their food an article that is not pure and well made.

To make good cider, the apples for each grinding should be all of one kind, that the fermentation may be complete and uniform. Apples should be selected, the juice of which has the greatest specific gravity, as such juice contains the most sugar, and of consequence makes the richest cider. It should be pressed neatly and cleanly, and every step of the process from the gathering of the apples to the final bottling or barreling of the liquor, should be in the same careful and unexceptionable manner. The goodness of cider, and certainly its purity is in a great degree depending on the perfect manner in which it is freed from all the feculent or sedimentary matter. This is usually done at the time of fermentation, at which time, if the barrels are properly attended to and filled, most of the foreign ingredients will run over, and so far cleanse the cider; but this method, which is all that most cider makers attend to, is very imperfect and leaves a mass of impurity that soon renders the liquor sour, turbid, and unfit for drink, or the best kind of vinegar.

To render cider of the best quality, fit for bottling, drinking, or culinary purposes, it should be filtered thoroughly, and thus fully freed from all impurities; it is only in this way that it can be done, and this, properly performed, never fails. For filtration, there is no substance equal to pulverized charcoal. In preparing a vat or vessel for filtering cider, the bottom strata (and this must be placed a short distance from the bottom, to allow the clear liquor to flow or be drawn off,) must consist of fine charcoal; over this a strata of that which is rather courser; and above all, a layer of well washed pure sand. The several divisions should be supported by hair or flannel cloths, and the number of the filters, or their size, may be determined by the quantity it is required to purify. The sand as it becomes filled with sediment and clogged, must be taken out and washed, and new charcoal must take the place of the old, particularly in the fine, or lowest section.

This method has been practiced in some few places we believe in this country, with great success; and a patent on this principle, has lately been taken out in England, and is very highly spoken of, for its effect on the cider submitted to its action. For ourselves, were we in the habit of cider drinking, we should prefer a liquor as fine and as rich as most of the foreign wines, to the sour, acrid, and villainous liquid that commonly passes under the name of cider.

DR. PERRINE AND MR. SMITH.

After our September number went to press, which, the reader will remember, contained some strictures upon the plan and statements of Dr. P. by Mr. Smith, P. M. at Key West, we received the distressing intelligence of the murder of Doctor Perrine, and the breaking up of the beautiful and flourishing settlement of Indian Key by the Indians. A short notice of his death was all we could at that time give, and the following imperfect tribute to his memory and labors, prepared for the next number has been unavoidably deferred until the present time.

Dr. PERRINE had for many years been U. S. Consul at Campeachy; was a physician of eminence, and passionately fond of Botany and its kindred studies. In these he had attained great proficiency, and few if any men now living, have that intimate acquaintance with tropical plants, their habits and uses, which he had. It has long been known that some of these plants of the family of the Aloes, produce articles of great importance to trade and commerce, such as Sisal or Manilla hemp, as the strong fibres of the leaves of these plants are called; and Dr. Perrine had formed the plan of establishing in Florida a colony for the purpose of naturalizing these, and all tropical plants suitable to the climate and soil, or of permanent value for their products. In his preparations for this establishment; in collecting the plants which he hoped would form a valuable acquisition to this country; in conducting the extensive correspondence necessary to engage public attention and secure the aid of government in the undertaking, he has been indefatigable; and had not the fatal Florida war, with its massacres and murders, broken out, every thing promised ultimate success. It was a great undertaking, and of its vastness and importance he was well aware, to transport and naturalize on our shores, the agave, the cocoa, the breadfruit, and the various other productions so well known and so valued in a tropical clime.

Before the war broke out he had collected many useful plants, some of which were transplanted in favorable locations on the Peninsula, near the Florida Cape, and under the temporary care of Mr. Dubose, keeper of the light-house at that place, while others were under his own care at Indian Key. It is well known that the settlement at the Cape was one of the earliest places that felt the fury of the savage foe, and no attempts to restore the colony or proceed with the object of the tropical plant company could now be made. Dr. Perrine and his friend Mr. Howe, employed themselves in making such arrangements and suggesting such facts for the consideration of the public, as would best enable them, when peace should be restored, to most effectually accomplish their intentions. They established themselves on Indian Key, one of those coralline reefs that enclose the Florida coast, and which from its distance from the main land, the known cautious habits of the Indians, and the fact that Table Key, another islet about a mile from Indian Key, was a naval depot, was considered perfectly safe from savage assault, a confidence which the melancholy result has proved was most mistaken. The meteorological tables kept at this place by Mr. Howe, which we have had the pleasure of examining, and of which a part were laid before Congress in the able Report of Mr. Linn on the petition and statements of Dr. Perrine, with the accompanying documents, engravings, &c. were far the most complete papers of the kind we have ever seen, and furnished the most ample data on which to found conclusions respecting the temperature of that part of the United States.

Dr. Perrine was so well acquainted with the nature of the obstacles to be encountered, arising from the peculiar formation of the country and the Indian character, that he had little faith from the first in their expulsion by the ordinary rules of warfare. His plan was to offer a reward sufficiently large to induce the Indians themselves to come in voluntarily; and had it been tried in good faith, before the foe had become so convinced of his being able to carry on the war with almost perfect impunity on his part, there is the greatest reason to think the plan would have been successful; and the expenditure of millions of money, and the sacrifice of hundreds if not thousands of valuable lives, been arrested. Even now it may not be too late, and it seems the only method that can be adopted with a reasonable hope of terminating the contest.

The numerous letters and reports of Dr. Perrine, published in the various journals of the country, or in the hands of his friends, contain a vast amount of useful information on the geology, botany, meteorology, and general character of the Florida peninsula, and if his strong expectations, and unbounded attachment to his undertaking, gave their flattering colors to some of his representations, his conscientious regard for truth, and the mass of facts they contain, with the useful suggestions they embody, give assurance they will not be lost to the country.

Those who have read the interesting details of the massacre, and the almost miraculous escape of the few survivors, given in the public prints, and particularly in the account drawn up by Mrs. PERRINE herself, since her arrival in this state, will not desire a recital of that tragic occurrence. Indian Key which, under the indefatigable care, and at the great expense of Capt. Houseman, had become from a barren coral rock, one of the most delightful retreats in the Florida seas, a garden of a few acres in the midst of the ocean, is now desolate; and the hospitable, intelligent and friendly few, who constituted its inhabitants, have fallen beneath the tomahawk, or are scattered wherever safety and a home can be obtained. In the death of Dr. Perrine we feel that we have been deprived of a kind and noble-hearted friend; that the country has lost an ardent patriot; national independence and improvement, a zealous friend; science an able advocate; and the cause of agriculture, a steady, intelligent and efficient co-operator. Peace to his memory.

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Since the above was prepared, we have received from Miss H. M. S. PERRINE, daughter of Dr. Perrine, a communication, dated Palmyra, Oct. 16th, correcting with no little feeling the alledged misrepresentations of the paper of Mr. Smith; as part of the remarks of Mr. Smith were owing to an inadvertance of ours in attributing the improvement of Indian Key to the Doctor, an error corrected above, Miss P. will pardon our omission of that part of her paper relating to this subject. To Mr. Smith's remarks on the subject of the Mulberry and growth of silk, she replies as follows:—

"The Chinese Mulberry can be seen at Indian Key, in the garden of Charles Howe, Esq. from 10 to 12 feet high, of a healthy, thrifty appearance, from which worms have fed and spun their cocoons in each of the winter months. That there has been one failure in Key West, I shall not dispute, though he (Mr. Smith) says the '*several thousand cuttings*,' were taken from trees raised on Key West; and of course *these trees* were not a failure."

In common with every other individual acquainted with the labors and the object of the Tropical Plant Company, Miss P. sees in the breaking up of Indian Key and the death of her lamented parent, a cause of deep regret, "as withholding from the country for a time at least, the cultivation of plants which were calculated to make the calcareous and shallow soils of southern Florida support a dense population; supply for commerce important articles; and furnish a large surplus, for which many thousands of dollars are now annually sent abroad."

The subjoined extract is the close of Miss P.'s communication:

"To some of your readers it may not be uninteresting to know that the remains of my father, which have been found, will lie beneath the broad leaves of one of the *original Sisal hemp plants* (Agave Sisalana) that he introduced from Merida, as being the most suitable place, until some other monument shall be erected to his memory."

We have watched the progress of the Tropical Plant Company with great interest. We have been fully aware of the importance to the country of the undertaking; and have admired the enthusiasm and self-devotion of Dr. Perrine. We have from the first been convinced that when the time shall come in which the labors of peace can advance in Florida, and the plan projected by Dr. Perrine in the colonization of plants be carred into effect, that the peninsula of Florida, will assume an importance in the estimation of the cultivator of the soil which it does not now possess. And then, long after the notes of regret with which the journals of the country from Maine to Georgia have been filled, the plants he has been the means of introducing, and under one of which he is now sleeping, will be a monument more durable, and more honorable to his memory, than any mausoleum constructed by human hands.

WINTER BUTTER.

Of all the products of the dairy, there is none more extensively used than butter; and there is none, the preparation of which requires more care, or better repays a little extra attention. The difference between good and bad butter is as wide as between the Zenith and the Nadir; and there is nothing more advantageous to the dairywoman, or more to be coveted by her, than a high reputation for the quality of this article. Good butter always indicates good order, great neatness, personal supervision, domestic industry, and skill in housewifery; and when a man carries an inferior article to market, the opinion entertained of his wife is directly the reverse of this.

The first thing to be attended to in making sweet butter, and butter that will keep, is the perfect purity of every thing used in the manufacture. Not only the vessels used, the pails, pans, churns, &c., but the room in which the milk is set, and the air which circulates in it, while the cream is rising, should be clean and free from every offensive odor whatever.

The temperature also of the milk while rising, and of the cream while churning, is of much moment. Cream on the milk will be injured or melted, by too high a temperature, as well as while the churning process is going on; and if the temperature is too low, the cream rises so slowly, that it becomes bitter and the butter of course is unpalatable. A temperature of from 50° to 60°, has been thought the best for the milk room, and from 60° to 65° will make good butter. The churning after it commences, should proceed without intermission until the butter is formed, and separated from the milk as far as it can be in this stage of the process.

The salting of the butter is a matter essential to its good quality. Too frequently, salt of a conrse, inferior description is used; and so much is put in that it remains undissolved, gritting like sand in the teeth, and provoking uncomfortable thirst. The salt for butter should be of the purest kind, made as fine as it can be by grinding, and if a little powdered salt petre is mixed with it, it will be none the worse. Some have recommended 5 lbs. of good salt, 8 ounces of salt petre, and 1 lb. of first rate loaf sugar, thoroughly incorporated and used for salting, at the rate of an ounce and a half to the pound of butter. If the salt is of the right kind, and the butter is correct in other respects, it may be questioned whether the addition of any foreign ingredient is not to be deprecated.

The great point in making good butter, and that which will keep, is the freeing it from *all* buttermilk; and if every thing else is well done, if this point is overlooked, good butter is impossible for any length of time. The mixture of milk in any degree with the butter is sure to produce frowiness or an unpleasant taste to the butter; and the entire freedom from this, constitutes the grand secret of making good butter. There are many who think washing butter with water incompatible with retaining the rich flavor, but if the water is cold and pure, it is scarcely possible any thing should be washed away, the buttermilk which destroys the flavor of all butter excepted. Besides, the best butter in the world and that which in all markets commands the best price, viz. Dutch butter, is invariably made in this way; and where the example has been followed by others, it has rarely failed of success. If any, however, doubt the propriety of washing butter, they may use any method they choose, provided the milk is separated perfectly. Perfectly freed from the substance that causes it to assume the putrid frowy taste of bad butter, it may be kept with almost as much ease as tallow; and solidity in packing, clean sweet vessels, and a low temperature, will ensure its keeping for any reasonable time. Let no one expect good butter, however, so long as coarse, impure salt is used, or a particle of the buttermilk is allowed to remain in it.

Domestic Economy.

Italian mode of preparing Strawberries.

Place as many berries as will form one layer at the bottom of the dish, and sift powdered loaf sugar over them; then place another layer, and sift sugar again. When there are five or six layers prepared, cut a fresh lemon, and squeeze all over them. Before serving, they should be gently moved, that all the berries may have the benefit of the lemon juice and sugar. Good, eaten in any way; when so prepared, this fruit is truly delicious.

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Cooking Beets.

Take beets of middle size, and after removing the tops and dirt, roast them in a fire as potatoes are roasted. When done, they are peeled and served up in the usual manner. One who has tried them cooked in this way, says they are much sweeter and richer than when boiled; as by roasting, none of the saccharine matter is lost. It is a singular fact, that roasted potatoes are one of the most efficient remedies or preventives of the scurvy, a property wholly lost when boiled.

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Oyster Corn Cakes.

Take one quart of green corn, rasped from the ear with a coarse grater, two tea cups full of new milk, one tea cup full of flour, mix them together, and add two eggs well beaten, season the batter with salt and pepper, and bake upon a griddle. The corn should be in a state most suitable for roasting or boiling. This preparation makes a capital dish.

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Preserving Fresh Fruit.

Currants, cherries, and damson plums may be preserved in a fine and fresh state, by gathering the berries or fruits when perfectly dry, leaving the stem on each, placing them lightly in stone jars, or bottles, without bruising or causing the escape of liquor, closing the bottles with cork and rosin, so as to exclude all air and moisture, and then burying them in a trench in a garden, neck downwards. Fruit so preserved, for some uses is preferable to dried fruits.

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Buckwheat Cakes.

To make good cakes, the flour must be good; not that coarse black compound, which sometimes passes under the name of buckwheat flour, but which owes its origin to the slovenly gathering of the grain, and imperfect hulling before grinding. Mix a quart of flour with a pint of lukewarm milk, (some prefer water,) add a tea cup of yeast, and set it in a warm place to rise. A little experience will teach the house wife so to regulate this point of yeast and rising, as to have cakes wet at evening for breakfast, and in the morning for supper; for be it remembered, those who have these light cakes for a few meals, will with difficulty come back to cold bread. When the cakes are light, salt is added, (some put it in at the making,) and should the cakes sour, a little salæratus dissolved in milk and stirred in, will improve them much. A small quantity left in the vessel, a stone pot is best, will serve as yeast for the succeeding mixing. They may be baked or fried; eaten as bread with meat, or with butter and sugar.

THE ENDICOTT PEAR TREE.—The oldest fruit tree in the United States, is probably the pear tree known by the above name, and growing at Danvers in Massachusetts. Two hundred and ten years since, this tree was brought, with many others, from England by Governor Endicott. All the others have perished, but this is still vigorous, and has this year borne a large crop of fruit. This is valued more as being the production of a tree dating from the days of the *pilgrims*, than from any peculiar excellence, it being, when compared with some of the modern fruits, only of inferior quality.

DICTIONARY OF TERMS
USED IN
Agriculture and its Kindred Sciences.

DUNG. The excrementitious parts of the food voided by animals, and generally employed as a manure. Its value to the agriculturist is very great; and the best farmers are the most careful to gather and preserve it in a proper state, as one of the most important of their resources for fertilizing the soil.

DURATION OF PLANTS. The several kinds of plants vary very much in their degrees of longevity, some being annual, perfecting their growth within a year, ripening their seeds and perishing. Others are perennial and continue to grow and flourish for years and centuries. Warm or cold climates have much influence on the duration of plants, and in some few instances plants that are annual in cold climates, become perennial when transplanted into warm regions, and vice versa. There are some kinds of trees that are very short lived, as the peach and the plum, others reach a great age, as the pear and the apple. Some kinds of forest trees are remarkable for their duration, and specimens are in existence seemingly coeval with the date of the present order of things on our globe. The oak and chestnut or pine of our forests reach the age of from three hundred to five hundred years. The cypress or white cedar of our swamps has furnished individuals eight or nine hundred years old. Trees are now living in England and Constantinople more than one thousand years old, of the yew, cypress and plane tree varieties; and Adanson found trees of the baobab growing near the Senegal in Africa, which, reckoning from the ascertained age of others of the same species, must have been nearly four thousand years of age. It may be remarked that plants of the same variety attain about the same age in all climates where they are produced.

DWARF. In horticulture, this is the name given to trees so prepared as to have their tops low and occupying but little room. They may be considered as perfect, though almost miniature trees, and when loaded with fruit exhibit a beautiful, though somewhat singular appearance.

EARTHS. The earths that are of the most consequence to the agriculturist as constituting arable soils, are silica, lime, alumina, magnesia, oxide of iron, and some few saline substances, as sulphate and phosphate of lime. The arable soils or earths are produced by the decomposition of the rocks which form the basis of our globe, and their quality is depending on the proportion in which the several ingredients enter into combination. Not one of these earths is of itself adapted to cultivation, and where any one of them is found in excess, sterility is the inevitable result. The best earths, or those best adapted to agriculture, are those that unite the properties most in demand by vegetables, and nearly in the proportions in which they exist in the most valuable plants. There is to be a distinction made between earths and soils, though the difference is frequently overlooked or forgotten. The earths are made by the decomposition of the primitive elements of the globe; this material is converted into soil by the admixture and combination of animal or vegetable matter, and the fertility is usually depending on the proportion in which this is blended with the earths. The earths in some form exist in all plants; and by reducing them to ashes and submitting them to analysis the proportion and kind of earths may be ascertained. Thus Buckhart found that 100 parts of the ashes of the following plants, well leached yielded of the principal earths as follows:

	Silica.	Lime.	Alumina.
Ashes of wheat,	48	37	15
" " oats,	68	26	6
" " barley,	69	16	15
" " rye,	63	21	16
" " potatoes,	4	66	30
" " red clover,	37	33	30

Tillet instituted a great variety of experiments with the earths, in order to ascertain the most fertile mixture, and succeeded best with 46 parts of silica, 37 of lime, and 16 of alumina. The analysis of an excellent soil by Bergmann, gave of silica 56 parts, alumina 14, and lime 30. In soils the greatest proportion may be silica, some fruitful soils going as high as 75 or 78; but when alumina is found to exceed 45, the soil is worthless for agriculture, and only fit for earthen ware or brick. That the earths are held by water in a state of solution, and are thus taken up by plants seems clear, from the fact that plants growing on soils to which salts of lime, such as gypsum or phosphate are applied, are found by analysis to contain more than where they have not been so used. A knowledge of the earths, and the ability to determine the proportions in which they exist in the soil, is of very great service to the farmer.

EARTH WORM. (*Lumbricus terristris.*) This worm, the common angle worm of the fisher, though apparently of little consequence to the agriculturist, is in some places found in such numbers as prove a great nuisance, and seriously affect the character of the soil. It is generally most abundant in moist lands, or in gardens that are heavily manured, and their presence may readily be known by observing the earth after rains, when numerous openings will be found, each accompanied by a small portion of earth apparently forced upwards from the opening and termed worm casts. That these worms absorb, where they exist in great numbers, much of the nutritive matter that should go to the growth of plants cannot well be doubted; though there is no proof that they feed directly on the roots of the plants, as some have supposed. Where they are found in large numbers they will sometimes accumulate in cisterns, wells and other reservoirs of water from which they cannot escape, in such quantities as to render the water most offensive. Quick lime applied to the earth worm is fatal; but the most probable means of destroying it would seem to be deep plowing late in the fall, and the consequent exposure to the frosts of winter. The anatomical structure of the earth worm is curious, a row of holes existing along the back between the several segments, some 120 in number, through which the respiration is performed.

EGG. "Every thing from an egg," was a favorite maxim with the ancients, and so far as living, organized creatures are concerned, may be considered as true; birds, fishes, reptiles, insects and worms bring forth eggs; and the ovaria of the higher classes of animals are to be considered as collections of eggs, from which under favorable circumstances the germ or embryo of the animal is produced. The eggs of birds, particularly the domestic fowl, is an excellent article of food, and for many of the purposes of cookery seems indispensable. The white of the egg, composed of albumen, is used for clarifying liquors, cleansing sugars, varnishing paper, and when mixed with fresh burnt slaked lime, or other powdered articles according to the use required, it makes a strong cement. Eggs may be preserved by keeping them in lime water, by packing them in salt, by covering them with varnish or oil and keeping them in a place of low temperature. Some of the eggs of reptiles are good for food, as those of the turtle; and the eggs or *roe* of fishes, are extensively used for food in those countries where the salmon or sturgeon are found in abundance.

ELDER. *Sambucus* of the botanist, is a plant well known to the farmer, as subjecting him to no little trouble in eradicating it from his fields. There are two kinds, the *S. canadensis*, or black berried elder; and the *S. pubescens*, or red berried elder. The last rarely occasions any inconvenience except in new districts; the first chooses the meadows or the richest intervale, and when once allowed a foothold, spreads slowly but surely, occupying every inch of ground to the total exclusion of other plants. It is also very apt to insinuate itself by fences, the banks of streams, &c., and when established it is eradicated from any place with difficulty. The berries, leaves, and wood of the elder are applied to various useful purposes. The juice of the berries, fermented, makes a wholesome wine; in Germany a strong spirit is distilled from them, and they are extensively used for giving a deeper color to pale wines. Mowing the elder appears to have little effect on the spread of the plant; beating the plant down to the earth, stripping and bruising the stem and leaves as much as possible, and repeating the operation twice or thrice in the season is said to arrest and destroy them effectually. In the early settlement of western New-York, we have seen millions of the wild pigeon feeding on the red berries of the *S. pubescens*; though those of the other kind are said to be fatal to poultry.

ELECAMPANE, (*Inula helenium,*) is a plant now naturalized in this country, to which it was early imported from Europe. It is much used in disorders of the breast and lungs, as it promotes expectoration, and is also a sudorific. Whenever it is cultivated, however, it should be watched and kept within prescribed limits as it is apt to spread, and become a troublesome weed to the farmer.

ELECTRICITY. The name given to one of the most important branches of the natural sciences, the development of the laws of which is of comparatively modern date, and in which discoveries of the most important nature are now continually making. The ancients were aware that certain substances, as amber, when rubbed, received a power of attracting to themselves light substances, but very little interest appears to have ever been felt respecting it even in modern times, till the bold conjecture of Franklin, verified by himself, that lightning was only accumulated electricity, fixed the attention of men of science on the subject; and by successive advances has demonstrated that every particle of matter is penetrated by and under the influence of this invisible, imponderable agent, and that to it we owe most of the numerous changes that are continually taking place in nature. It has been rendered probable that the fluids known as caloric, light, electricity, magnetism, and galvanism, are only different modifications of the same all-pervading agent, and that to its efficiency we owe all chrystallization, growth and organization. The power of producing the electric spark has long been possessed; but within a few years the researches of science have united the before considered distinct agents of electricity and magnetism, and currents of the electro-magnetic fluid are now kept up for any desirable time, and their action directed with the greatest certainty and ease on any given point. By means of this, a continued power is produced capable of moving machinery, as has been demonstrated by Davenport and others; and though as yet but few practical applications of the power have been made, it seems reasonable to suppose that farther advances in the investigation will develop its applicability to most of the uses where steam is now required. The effect of electricity on vegetation has not received the attention it deserves. That plants push forward much faster where the electric currents are active is well know to the farmer; but how far this new agent may be used to hasten vegetation is not generally understood. Some experiments seem to show the power to be very great. Thus by sowing the seeds of cresses in a suitable earth, watered and of the proper temperature, and making the mass part of a voltaic circle, the seeds are germinated and the plant fully developed in a few hours; and very similar effects are produced on other seeds. There can indeed be little doubt that all vegetation owes its existence to currents of this fluid, and if man is able to produce or control them, they may be made of essential service. The effect of electricity in hastening vitality in the embryo of animals is not less striking. The eggs of the common fowl require from twenty to twenty-five days to produce the young, according to the temperature. By exposing them to the electro-magnetic current, the young are hatched in five or six days; and most are aware of the result of Mr. Cross's experiments in which insects were repeatedly produced by the passage of the current through silicate of potash. It may well, therefore, be supposed that our knowledge of this electric agent is yet in its infancy; and that the investigation of science will soon cause this powerful but mysterious actor in the phenomena of the universe, to cause to be regarded as something only existing in the speculations of the philosopher, and that it will be made subservient to these purposes of practical utility of which it is evidently capable.

EMBRYO. The germ, which is the earliest point of vegetable or animal existence, is never developed beyond a certain state, unless it be vivified by the action of a peculiar fluid, which is the product of other organs. Thus there are established two different classes of structures; the office of one being the formation and preservation of the seed, germ, or ovum, and the other the production of the vivifying fluid. The effect of this vivifying fluid upon the hitherto latent germ is called *fecundation*, and the germ when fecundated is called the embryo. The bud, though it may produce a plant or a tree, is of a very different class of embryo existence from those formed by the fecundation of the seed or ovum. The manner of the formation of the embryo, is almost infinitely varied in plants as well as vitally organized beings. In some of the infusorial animals, production takes place by a simple division of the parent, the embryo and the orignal stock being of the same size and undistinguishable from each other. Some plants also possess the same power of casting off embryo from their own substance, of which a curious instance is afforded in the *Lemna* or common duckweed, found on stagnant water. It consists of a small circular leaf floating on stagnant pools, and the gems are developed on the edges of the leaves, from which, when sufficiently grown, it is detached, and floats away to become the founder of new families. In the *Filices* or fern tribes the embryo plants are formed on the under surface of the leaves, apparently by the simple process of evolution, and when detached they fall to the ground and taking root become new plants. By far the greater number of plants have the two sets of organs necessary for the formation of the embryo, contained in the same flower; or at least in flowers belonging to the same individual plant; but there is a limited number in which the fecundation of the germ is effected by organs on another individual plant, and the formation of the embryo depends on the transference of the fecundating dust or pollen from the blossoms of one plant to the other. Attention to, or a knowledge of the different methods in which the fecundation of the germ in plants is affected, gives the producer of them great advantages in improving the species by crossing, or by impregnating the germs of one plant possessing some desirable quality, with the pollen of another kind desirable on some other account, and thus producing an embryo plant uniting the best qualities of both the parents; and the same rule has been most satisfactorily tested by the scientific farmer in the improvement of that part of the animal kingdom committed to his care.

ENDOGENOUS. In some plants the addition made to their growth takes place from the interior of the plant, and in some from the exterior. In the first case the plant is called *endogenous*, and in the last, *exogenous*. All trees belonging to the family of palms, the date, cocoa nut tree, breadfruit tree, the bamboo, sugar cane, and indeed most of the trees belonging to tropical climates, as well as all gramineous and lilaceous plants, are endogenous. On the contrary, most of the trees of temperate or northern regions, such as the oak, pines, and elms, and the various fruit trees, are exogenous. In the first, each successive addition is made from within like drawing out an additional slide to a telescope; in the last the addition is made between the bark and the wood of the previous year's growth, and these successive layers determine the age of the tree, as the joints of the palm do the age of that class. The stems of endogenous plants, after they become consolidated, never increase in size; they can only increase in heighth; while the exogenous ones continue to increase in circumference as well as in height during their whole life.

FARMING ON THE PRAIRIES.—The Christian Intelligencer contains a most interesting description of Madison and its vicinity, in Wisconsin, from which we make this extract. "The prairies have their beauties. With no more difficulty than the management of an old meadow in the east, a farm of almost any extent, can here be opened, and in three years, it has all the appearance of having been cultivated one hundred years. You would be surprised to see the luxuriant fields and gardens of the west, *reclaimed* from a wilderness of centuries by the labor of two or three years. Already the Cultivator is *read*, and the most approved modes of agriculture are in use."

THE SCHOOL DISTRICT LIBRARY.

One of the most important acts of the legislature of New-York, in relation to education, was the passage of a law three years since appropriating fifty-five thousand dollars a year for three years, or $165,000 in the whole, for the establishment of school libraries in all the districts of this state. Millions had been before expended in teaching all to read, and then the effort was made to put into the hands of all, books worthy of being read. To provide books of the proper kind was not the work of a day or year. The books must be numerous to supply the demand; they must be written, for those suitable were not in existence; they must be of a high order of excellence, or the intentions of the legislature would be frustrated. In making out a series for the first year, the Messrs. HARPERS were greatly aided by selections from their excellent Family Library, and it was, as it deserved to be, well received by the public. It was deficient, however, in works relating to the most important branch of industry in this country, Agriculture—a deficiency supplied in the second series published last year by the same booksellers, by the incorporation of Chaptal's Agricultural Chemistry; Armstrong's work on Agriculture; and two volumes by Judge Buel. The second series was also superior to the first in the better adaptation of the series to the wants of the community, an advantage derived from the time which had been given for its preparation.

Under the patronage of the Superintendent of Common Schools, and aided by the general excellence of the works embraced, the neatness of their getting up, and the convenient manner in which they were offered to the public, as well as their extreme cheapness, these series have had a most extensive circulation, and found a place not only in almost every school district of this state, but also in many of those in the adjoining ones. The Third Series has just been issued by the same enterprising publishers, and from a hasty examination of a set of the work we do not hesitate to state our conviction that in almost every respect, it is far superior to either of the former series. A large proportion of the works embraced in this series have been written expressly for it, and among the names of the writers we notice with pleasure many of the most celebrated in the country; such as Dr. Nott, Professor Renwick, Washington Irving, Gulian C. Verplanck, W. C. Bryant, F. G. Halleck, Prof. Upham, Theodore Dwight, Dr. Hawks, and others whose names are a sufficient guarantee of the value of their contributions. Of the works we notice a valuable History of the United States, a Life of Dewitt Clinton, Keightley's History of England, Memoirs of John Jay, Alexander Hamilton, and Commodore Perry, &c. &c. the whole making a series of reading, attractive as well as instructive. Of the volumes on American Husbandry furnished by the Editors of the Cultivator, we shall not be expected to speak particularly, farther than to say, we hope they will be found useful to the great body of farmers for whom they have been prepared.

The School District Library now embraces about 150 volumes, and forms one of the most valuable collections of books to be found in any country. They are beautifully bound in cloth, and there are few libraries indeed to which they would not prove a valuable addition. The average price of the volumes is but about thirty-eight cents each, and we may mention, that one of the works embraced in the present series, Keightley's History of England, the different editions of which sell from five to ten dollars each, are priced in the School Library at only about one dollar seventy-five cents, and this is by no means an example of cheapness, solitary and alone. The price of the present series is *nineteen* dollars, and the Trustees of School Districts should make their arrangements for ordering and receiving them with as little delay as possible. Perhaps very few instances can be found in the records of literature where a series of works have attained such a popularity as the Harper's School District Library, and more rare still are the instances in which such a popularity is better deserved.

BERKSHIRES IN KENTUCKY.

The way they do up the hog business among our farming friends in the great west, is a "caution." Durhams and Berkshires are the favorite breeds of cattle and swine, and neither money or time are spared in improving and spreading the numbers of these valuable animals. Were not the peculiar circumstances of the Mississippi Valley, its immense resources for the production of pasture and corn, and the propriety of the inhabitants devoting their attention and capital to objects that will best repay transportation, to be taken into consideration, the prices that animals of the best kind command in the west, would be deemed the result of speculation, and such as could not be justified by any process of rational calculation. We, however, are far from thinking such is the case. The farmer who fattens 100 hogs or sells 100 head of cattle annually, can well afford, from the increased profit he will receive, to pay 100 dollars for a boar or 500 dollars for a bull. On this point, any one may satisfy himself in a moment, by making an estimate of the greater quantity of meat a given amount of pasture or corn will produce when fed to the improved animals, over the old breeds. Of this, any one will be convinced who will grow and fatten the common hog and the Berkshires together. On the subject of improving their stock, the western farmers are setting an example which might well be followed by their brethren in the east and south. But our object was not to write an essay on stock, but to show from an advertisement in the "Agriculturist,"—(by the way, this "AGRICULTURIST" is a most valuable journal published at Nashville,) the spirit with which the men of the west enter upon any important enterprise. Wm. P. CURD, Esq. of Fayette Co. Ky., after giving a catalogue of some 20 or 30 hogs, goes on to say:—"In all, I have 14 Berkshire, and 3 Irish Grazier breeding sows, and 4 Berkshire and 2 Irish Grazier boars, at a cost of $3,000. During two years, 31 silver cups have been awarded at different fairs to these hogs. From them I have sold 110 pairs of pigs at $40 the pair. 254 sows, some of which have come 200 miles, have been bred to my boars at $10 each. All these facts indicate the popularity of this stock." Mr. Curd gives one instance of the facility with which the Berkshires take on fat, to which we do not now recollect any parallel. Black Hawk, a full bred Berkshire, at eight months old, was so injured, accidentally, as to be useless as a boar, and was after three months castrated and put in with Mr. C.'s fattening hogs, weighing at that time 122 lbs. "After being fed 64 days, he was taken out again and weighed, and lifted the beam at 410 lbs; showing the astonishing gain of 4½ lbs. per day. He is now fed solely on grass, and weighs 550 lbs. at the age of two years."

Notes for the Month.

BUDDING THE PEAR.—That valuable publication, Hovey's *Magazine of Horticulture*, gives the following account of the method pursued by Mr. Howland, of New-Bedford, in budding the pear. "Mr. H. has adopted budding with the terminal eye; and a small part of the branch; the bark of the stock has two incisions made similar to the one made by budding: the scion is pared down on one side, and the whole is then inserted under the bark, and bass matting or yarn applied in the usual manner. By this method considerable time is gained; the operation may be performed in July, and a strong shoot will be made the same season."

INFLUENCE OF VEGETATION, IN MODIFYING THE QUALITIES OF PLANTS.—Prof. Christison of Edinburgh, has instituted a series of experiments, which go to show that the qualities of plants are essentially changed in the progress of their growth; that plants which have roots and leaves acrid, narcotic or poisonous while green, are frequently inoffensive when ripened, and in some cases are good for food. Thus the Ranunculus, or crowfoot of our meadows, is offensive and poisonous to animals while green, but is eaten with avidity when ripened and made into hay.

INHERENT HEAT IN LIVING PLANTS.—The experiments of Dutrochet, which have since been confirmed by DeBeck and others, demonstrate that living plants have a heat peculiarly their own, and which is retained in a greater or less degree while life lasts. That it is owing to an electric or magnetic current, influencing the circulation, appears very probable, from the different manner in which a delicate suspended needle is affected by living or dead plants. It is not improbable that when the nature of these agencies shall be better understood, the means of creating and directing them will constitute the grand object of the farmer.

SOUTHERN RAINS AND SOUTHERN VEGETATION.—A Georgia correspondent of Hovey's Magazine, in a letter of September, says that "Not less than six feet of water has fallen since the first of April; and only once until last week has there been three consecutive days without rain. At the time of the great freshet, (May 26) not less than 18 inches fell in 28 hours, and twice since about 12 inches have fallen in 24 hours. * * * I have grafts set in March, of cherries, plums, and pears, (some even on quince stocks,) which have made a growth of from five to seven feet, and are still going ahead at a great rate. * * * Among my dahlias, I have one received from Thorburn some years ago, which measures now eleven feet high and without the least sign of a flower bud upon it."

SEEDLING POTATOES.—Mr. Robinson of Waterville, Maine, in 1834, planted the seeds from a potato ball, and has continued to plant from the product of these seeds. Last year he carefully sorted out, and planted each variety by itself. One of the varieties, a large round kind of a pale orange color proved very productive, and this year he planted one row with his new seedling, and one with the Rohan, to test their comparative yield. At the harvest in September, the Rohan row yielded one bushel and seven-eighths of a bushel, and the seedling row yielded two bushels precisely. Another of the kinds was a capital table potato, but yielded only about half as much as the other.

VETERAN FARMERS.—At the cattle show and fair at New-Haven, Mr. Reuben Tucker, of Derby, and Mr. Bronson, of Middlebury were present; the first, 97 years of age, the last 81. Mr. Tucker came for the express purpose of plowing a furrow with the long team; and Mr. Bronson walked from Middlebury to N. H. 25 miles, and drove a beautiful pair of fat oxen, which he entered for the premium.

LIGHTNING RODS.—During the last summer, a heavy charge of electric fluid passed down one of the rods attached to the barn of N. I. Sharpless, of Downington, Pa. The barn escaped without injury, except that the mortar was torn from the stone walls to a considerable extent near the foot of the rod; but strange to say, two cows near the wall, but twenty-five feet from the rod were instantly killed. The rod was five-eighths of an inch in diameter, with platina points. The brass solder by which the point was fastened to the rod was melted, and no trace of the point could be found. The base of the rod or the lower part terminated in charcoal; but was it not probable that the depth was not sufficient to ensure moisture in a very dry season, and consequently the fluid on reaching the earth scattered in every direction over the surface.

GREAT YIELD OF PUMPKINS.—Mr. E. H. Derby of Boston, has communicated to the Courier the result of an experiment in raising pumpkins. He planted 70 rods of ground about the middle of May, in hills 9 feet apart and well manured. The whole spot was soon covered with vines, and some of the pumpkins weighed 112 lbs. The whole yield ascertained by weight, was 22,220 lbs. or at the rate of 50,788 lbs. per acre. It is of the kind called Harrison or Tippecanoe; is rich and solid in the flesh, and Mr. D. generously offers to furnish seeds to such as may desire them.

BUCKTHORN HEDGES.—Hedges of this native plant are becoming quite common in the vicinity of Boston and Salem. Large quantities have been set within two or three years, and appear very fine and flourishing. They are purchased at the nurseries, for 50 or 75 cents per 100, and require protection for four or five years while growing. The number of plants required to a rod is 25 or 30, and the expense of the hedge for the same distance, seventy-five cents.

VALUE OF LIME.—From a piece of land, which five years since produced only thirty bushels, Mr. Cadwell, of Valley Township, Pa. has this year raised four hundred bushels of wheat. In this interval of five years, Mr. Cadwell has spread on this land fifteen hundred bushels of lime.

NEW WHEAT.—A new variety of wheat has been introduced into South Carolina, by Col. Spieren, agent for the Osage Indians. It is called the many headed wheat, and promises to be a great acquisition. Mr. Spieren brought 7 heads home with him, and committed the cultivation of them to A. Baker, of Abbeville, S. C. Mr. B. says he "believes every seed came up, and each seed produced a stool of from 20 to 50 stems or straws. Each head of wheat contains from 100 to 150 seeds." Mr. Baker, sowed his the 2d of January, but it is evidently a fall wheat, and should, he thinks, be sown at least two months earlier. He offers to sell the heads at $5 each. That looks rather too much like a hoax. It is probably a variety of the multi-headed wheat already known—possibly the Egyptian.

CABBAGE WORMS.—A writer in the Southern Cultivator, says he "had a square of very fine cabbages in his garden, upon which the worms had commenced making great ravages. Penny-royal was gathered and scattered over the cabbage heads plentifully, and the work of destruction ceased." The writer did not know whether the discovery was a new one, but it seems to have been a very easy and effectual one, and well worth a trial.

USE OF THE MULLEIN.—We have noticed in the foreign Journals that the common mullein, *Verbascum thapsus*, is extensively used in the German states to prevent the depredations of mice in granaries. The plant is gathered, and the leaves and stems placed in considerable quantities in barns and depositories of grain, and is said to effect a speedy expulsion of mice from the premises. Where trouble from this source existed, the measure, though simple in itself, might be worth a trial.

SALT FOR POULTRY.—The Franklin Farmer contains a notice of a farmer's wife in that vicinity who killed her flock of thirty young turkeys, by giving them a pint of meal wet up with a large spoonful of salt. A few years since, a friend of ours killed about 50 chickens by allowing them to eat a quantity of meal in which salt had been liberally put and wet up for his horse. Salt may be safely mixed with food given to geese or goslings, but is fatal to turkeys or chickens.

BEES WAX.—This valuable material is most easily separated from the various substances with which it is usually mixed, when taken from the hive, by tying in cloth of loose texture, and then being placed in a kettle of boiling water. On pressing this bag of comb below the surface, the wax rises to the surface, where it should be skimmed off and poured in a vessel of cold water standing by. By repeated pressing or squeezing of the bag under the water, the wax will all be extracted, and saved free from dirt of any kind. When well managed, wax forms no inconsiderable part of the bee-grower's profits.

SOBER TRUTH.—"Establish the principle that what we fairly acquire, is not our own, we shall have as great inducement to be industrious and active as the slave has, and no greater. You may reduce all to a common level, but this will not secure all against want. That community will not be so likely to starve where some have wealth, as that in which none possess it."—*Buckminster.*

HOGS.—"*Long hogs* are every thing with some people; but a long back is as bad a point in a hog as a horse, and a hollow back is the worst of all points. It indicates a bad constitution, and an enormous gormandizer."—*Franklin Farmer.*

A GOOD PIG.—Mr. Bailey Birge of Norfolk, Ct., lately butchered a pig 8 months and 21 days old, which weighed when dressed *four hundred and forty-three pounds.* The pig was a half blood Berkshire, crossed with some native breed. For some time before it was butchered, its weight forbid its rising, nor could it see, unless the fat was pressed away from its eyes.

Communications.

MERINO EWE.—[Fig. 92.]

Butternuts, Nov. 12, 1840.

MESSRS. GAYLORD & TUCKER:

GENTLEMEN—It is with some hesitation that I proceed in my original intention of furnishing you with a series of Portraits from living animals, an intention growing out of the conviction that, if *correctly* done, they would offer a valuable standard for comparison to those of your readers, who think they have not time to look beyond their own yards and cots, and consequently know little of the advances and improvements made in stock elsewhere; but really, you seem so amply supplied with such evidences, that were not the drawing already in your possession, I should let the series drop. As it is, I will address a few remarks to you in reference to it. The subject is a Merino ewe of, I presume, the "Paular" breed; for she possesses in a striking degree, what I understand to be the features of that family. Her form at any rate is genuinely *Merino*, as may be seen in the rise of the shoulders, the uneven line of the back, the drooping quarter, and crooked leg; with all this, however, she had depth of carcass, tolerable width of chest, and a good constitution. Her skin hung in loose heavy folds round her neck and shoulders, and this same amplitude of covering extended, though in a less degree, even to her sides and flanks. She was remarkably thick and close in her wool; carrying a very fine and even fleece that yielded, when *thoroughly* washed and cleansed on the back, *over five pounds*, notwithstanding she had a stout ewe lamb by her side!

When I made the drawing, she was one of a small flock of thirty breeding ewes, whose average clip was 4¼ lbs. of clean wool; and such was the standing of this flock for purity of blood, quality of wool, and weight of fleece, that its buck lambs sold readily at $13,50, and its ewe lambs at $7 a head. The sheep were well fed, well sheltered, and well cared for, and consequently rarely failed raising a lamb to each ewe. Thus it will be seen that, allowing the wool to be worth 60 cts. per pound, (and that is a low estimate for the times when I made the portrait,) these few sheep produced an income of at least $12 a head! This may perhaps be considered a *breeder's* rather than a farmer's profits; but the same flock in any hands, with the like care, management, and attention would have produced the like results. Still it must be acknowledged that the Merino, compared with the *improved* breeds of sheep, is an ill formed animal; and I am only surprised that some enterprising and competent Flock Master in America, has not, ere this, set himself seriously to work to obtain a better carcass, and more symmetry in an animal carrying so valuable a fleece. I conceive this might be done to a certain extent, by selection and better nurture, but would be yet more easily effected by an occasional cross with the South Down, which is itself a mountain sheep of moderate size, (and whose wool bears the same relation to the Merino that the Merino does to the Saxon,) and is exceedingly beautiful in form, possessing early maturity, great constitution, and an industry that enables it to obtain a living on the shortest bite. It is true, that some few attempts were partially made in England to improve the Merino, but the animal was so distasteful to them in its appearance, so unprofitable in its carcass, that the English breeder had but little inducement to encounter the task; moreover the demand for mutton and the coarser wools exceeded their production, and the prejudice or interest of the manufacturers discouraged the growth of the finer wools. In this there might be policy, for the manufacturers could draw an abundant supply of fine wool from abroad, but were dependant on the farmer at home for their "combing wools" and mutton.

But with us it is very different; we have only here and there a few sheep of the improved varieties, while the general character of our flocks is Merino—Merino in all its various grades, up and down the scale from "R" to "F" & "T" and how much lower, let the "negro cloths" testify; the most of these sheep are without beauty, without size, and without any of those symmetrical qualities indicative of an "improved breed;" and very many of the higher grades, I am sorry to see, have not a sound foot to stand upon! Under these circumstances, selection seems to me almost hopeless, or at least, involving much greater difficulty than crossing. This latter experiment I have occasionally made with a Down buck on a Merino ewe, and the *first* cross (for I have never gone farther) has almost invariably produced *great beauty of form*, but has perceptibly lowered the grade of the wool, though not reduced the weight of fleece. This I presume is to be retrieved by again using fine wooled bucks, taking it for granted that the quality of wool is as much under the breeder's control as beauty of form; I have also found the character of the Merino's foot entirely changed by a South Down cross; and I believe it would go far towards enabling the owners of fine wooled sheep to escape, if not eradicate, that terrible pest from their flocks, the foot rot.

I believe now it is generally conceded, by the fine wool growers themselves, that they are not sufficiently paid for the cost and labor of producing it. If that be the case, why not exchange that last costly twist of the most attenuated fibre, for which it is said the manufacturer *will not pay*, for an extra weight of wool and *meat* that *will be paid for?* to say nothing of beauty and constitution, early maturity, and docility that might be obtained by a suitable cross. These suggestions, all crude as they are, I hazard for the consideration of the Merino flock master, feeling assured that he will not forget the lesson of caution taught him by his past experience. More *practical* men have, I understand, this subject under consideration; and having myself disposed of some half dozen Down Bucks to growers of fine wool, we shall probably hear from them on the subject.

Yours with respect, R.

SHEEP HUSBANDRY IN TENNESSEE.

Having some time since received from JOHN A. GRIMES, Esq. of Kentucky, a specimen of very fine Saxony wool, from sheep procured from M. R. COCKRILL, Esq. of Tennessee, we addressed a letter to Mr. C. soliciting information in relation to the origin and history of his flock. The following is his answer:

MESSRS. GAYLORD & TUCKER,—You request a description of my Saxon sheep for the Cultivator. I have been about 26 years breeding fine wooled sheep, and during that time, I have given the greatest possible care in examining and selecting, myself, the bucks I have bred from, and at all times would reject all that had an appearance of coarseness about the horns or thighs, and always making choice of the bucks of the most uniform, fine, soft, cotton-like fleece, and at the same time, the largest fleece and the best formed animals with the greatest share of life and sprightliness. A flock may be brought to be precisely like the buck; therefore the success depends upon skill in selecting the bucks. I never saw any sheep of the first order, until I got some Electoral Saxony sheep imported in 1824. They have less wool about the head and legs, and perhaps the fleeces are a little lighter than the best Merinos. The sheep are without dewlaps, and are a little longer in the leg than the Merinos. My Saxon sheep in this climate are hardy and longer lived than the common sheep of the country, and the bucks of the first quality produce about 5 pounds of wool unwashed. I weighed 4 head on the 25th Sept. last, two ewes 98 and 102 pounds; two ewe lambs, 5 months old, 56 and 62 pounds. They were in good order, but sheep are fattest about the 1st of November in this country. This breed of sheep is calculated to do well in almost all climates. I have had my sheep five years in Mississippi, in latitude 32½° north, and in that level damp country they did well, grew larger, and produced fine soft cotton-like wool, very free from hard white hairs, which is sometimes seen in wool, where the proper care is not taken to reject bucks having that fault. When my flock left Mississippi, they traveled direct to Lexington, (Ky.) about six hundred miles, to latitude 38° 10", and were directly exhibited at the cattle show, against the Hon. H. Clay's very superior Saxon sheep, and the premium was awarded to my sheep. I name this to show that we have, from latitude 30 to 45, to grow wool; hence the U. States is destined to be one of the greatest wool growing countries upon earth. The premium being awarded to my sheep was no doubt the reason that Mr. John A. Grimes, and Mr. William Price of Kentucky, sent an order for a few breeders from my flock, which I think it would be hard to surpass in fineness. Others might do well to breed from this flock, as the cost would be much less than to import and get as good sheep. I have been for many years comparing my wool, with samples of imported wool from Saxony, and believe that I have as pure sheep as any that can be produced, and will at all times compare with any imported or American sheep for any kind of a premium.

I feel anxious to get the flock masters to investigating an important matter as I think. There is a fly that nature has fixed his residence, or place to mature, in the cavities of the sheep's head over the eyes. From the sheep being a brisk lively animal, the fly necessarily has to drop his young alive upon the nose of the sheep and the little creature runs up the head and there remains until of proper age, and the sheep blows him out or he drops out, and then enters the ground and presently comes up, bursts off his covering and comes out a fly. I have caught them and found from 3 to 500 live worms in them. In this climate, they are after the sheep from the 1st of June, until frost. They some times defeat the object of nature, as they kill the sheep. It is by taking, as I think, the wrong course, and going up to the brain, and often producing dropsy or other derangement of that important organ. More lambs are destroyed by them than any other sheep. It may be because the lamb is not so capable of avoiding the fly, or because its head is not so closed up, to prevent the small worm from going in to the cavity of the brain. I have no doubt thousands of sheep have died from this cause, and shepherds have attributed it to other causes. My only remedy is to bore augur holes in timber, and drop a little salt, and tar the holes with a brush every two or three days during the fly season, as a preventive; a little powdered sulphur on the tar will be of use. You will please, through your valuable paper, ask for all the information on this important subject. This fly seems not to be as smart as the bot fly, for they, it appears know the age of the horse, for a colt or other young nag never has the same number of eggs deposited on his coat that grown horses have, all running together. The death of the lamb, produced by this worm, we may suppose is from the head not being grown up to prevent the entrance of the small worm into the cavity of the brain. MARK R. COCKRILL.

Near Nashville, Oct. 17, 1840.

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From a communication of Mr. C., in the last *Agriculturist*, published at Nashville, we extract the following:

"All must readily see with but a moment's reflection that there is more country in a much better cotton latitude, than will be wanted for the culture of that article for a great length of time, and if we expect prosperity, we need not work against the laws of nature, trying to make cotton a profitable business in our climate; but should turn our attention to the various pursuits our climate is better calculated for. Some might do well at growing wool, hemp, silk and provisions. I think mainly at raising sheep, for as much flesh may be produced for what is consumed, as any other animal, and a valuable fleece of wool at the same time, which is more universally used than any other article we can produce, and all the time fertilizing our lands. Wool growing may be carried on profitably upon cheap lands. In Europe where their valuable lands must necessarily pay a high profit, this business is mainly encouraged. But this is far from the case in this country. A small flock of Saxon or fine wooled sheep well taken care of will, in our climate, average about 5lbs. of wool unwashed; a large flock cannot be so well taken care of, and would not average more than 4lbs. The Bakewell sheep, if an equal number of wethers, would average about 7 lbs. The common sheep of the country about 3½ lbs. Saxon wool of the best quality is worth three times the price of the common wool, and Bakewell, about ten per cent more than the common. The form of all the long wooled sheep I have seen from England, proves that Bakewell's blood predominates, and I am not disposed to strip any man of his merits, and therefore call all the improved long wooled sheep from England after Bakewell. About eight head of Saxon sheep will keep upon what a common sized cow consumes, and seven common sheep and about six Bakewells. Three good hands may take care of and maintain 1000 head of sheep, provided the farm is fitted out for that purpose; 8 head of Saxon may be grazed to the acre of first rate grass; 6 Bakewells and 7 common sheep; what is here spoken of as an acre of good grass, is first rate land, well set in grass, without timber or any other impediment. A sheep farm should have division of pastures, so as frequently to change them, or extensively range them upon unenclosed lands. For winter, a cutting of clover, timothy, and two ages of Millet, so as the hay cuttings should be at different times. Sow all the corn lands in peas, and about the 1st of September, sow rye on all the plow lands, or after the 15th of August, if the land should happen to be completely wet. Rye will make a pretty good stand on land well covered with pea vines without plowing, but the millet or other lands will do much better if the rye be plowed in lightly. Every person should at any rate, have rye fields for their weak sheep and bad nurses; any ewe will do justice to her lamb if on a plentiful rye field. In this climate, about three months

sheep require what we call wintering. They will do upon plenty of any kind of food the farm will produce cheapest. My flock have done as well at all times, for the past 25 years, as any reasonable man could have expected. I invite all that expect to engage in this business to call and judge for themselves. I believe the loss of domestic animals is generally in proportion to the attention paid to them, and none need expect prosperity in any agricultural pursuit, without it is reasonably managed with a due share of never tiring industry and economy."

Importance of a National Agricultural Society.

EDITORS CULTIVATOR—More than twelve months have passed away since your very intelligent and patriotic correspondent, Mr. SOLON ROBINSON, proposed the establishment of a great National Agricultural Society. The project received such high commendation from various parts of our country, that any one who was ignorant of our true character as agriculturists, would have supposed that our whole class would hasten with the utmost zeal to adopt measures for its speedy execution. But,—to our shame be it spoken, the whole scheme, fraught as it was with the promise of great good to the nation, as well as to individuals, seems to have evaporated in idle talk. Why has this happened? Can it be, that the owners and cultivators of the soil, in these United States, are so dead to their own best interests—so insensible to their own honor—so regardless of the various means by which they might elevate their own class to that high rank in our community, which they are justly entitled to hold—that they will not even move a finger towards it? Heaven forbid, nor will I believe it so long as a shadow of hope exists, that we may be roused from the torpor which appears to have paralyzed every effort heretofore made to disenthral us from its influence.

To enumerate all the advantages, both to the public and to our own class, which would certainly follow from the establishment of a National Agricultural Society, would require a much longer communication than I intend to make, but I hope you will permit me to state a few of them. One of the first and most important is, that by annually bringing together the distant members of our great agricultural family, who, at present know little more of each other, than if they inhabited different planets, the bonds of that cordial brotherhood, which should forever unite us, would be so strengthened as to defy all those efforts to sever them which of later years have been threatening destruction to our heretofore happy Union. This could never be dissolved could the members thereof be more fully apprized of its vital importance to their own and the national interests; and to do this, there surely can be no way more effectual, than that which would draw them together solely for the purpose of consultation in regard to matters in which they have a deep and mutual concern, wherein no conflicting interests exist to mar the harmony of their deliberations. This view alone of the subject,—if it struck the rest of my brethren as it does myself, would suffice to get up a National Society of Agriculture before six months more shall pass over our heads. But there are other considerations of hardly less weight that may be urged in its favor, which I beg leave to suggest. It would enable our whole class, in the shortest time practicable, to possess themselves of all the latest and most valuable improvements which have been made in the various branches of husbandry throughout our whole country;—improvements, that without such a society, will most probably remain unknown beyond a very limited circle, for many—many years to come. Lastly, it might put an end to the vast waste of money expended in the purchase of the numerous worthless machines and implements which, under the sanction of a patent, have found their way into almost every part of the United States, and against which the present patent law affords no adequate protection. Very few of our class possess sufficient mechanical knowledge to be good judges of such matters. Consequently, when we find that any machine or implement offered for sale, *has been patented*, we are very apt to take it for granted, that it must be very useful, and are thus often led to buy what frequently turns out to be good for nothing. But if we had a National Society of Agriculture, they would, in all probability, deem it a part of their duty to make comparative trials between all things of the kind; and would pass sentence of approval or condemnation on the whole. This, when published, would be such a proof of merit or demerit, in regard to every agricultural machine or implement, that our whole class would place full confidence in it, and would no longer be exposed to the numerous impositions under which very many of us now suffer.

I could add much more on this deeply interesting subject, but am unwilling to occupy that space in your highly useful paper, which many of your other correspondents can fill so much better than I can. Permit me, however, to say, that if there are any of our brethren who can possibly doubt as to the great utility of such a society as I have been recommending, they may instantly have those doubts removed by referring to the highly interesting accounts of the Scotch and English Societies of Agriculture which have already rendered, although but recently established, such eminent services to their respective countries, that their periodicals are filled with eulogiums on these institutions. It is not, therefore, a matter of conjecture how far similar establishments may benefit even the oldest nations. And if *these* can derive from them such inestimable advantages, it is perfectly demonstrable that a country comparatively so young as ours, must thereby be benefitted in a far higher degree. To organize one for the United States, might very easily be done, without trouble or expense. All that need be done, in the first place, would be for the members of congress to devote a single one of the numerous holidays which they are in the habit of taking, to making out a scheme for the purpose, and we ought not to doubt that they would do so, if their constituents generally were to request it. In the earnest hope that they *will do so*, I shall now conclude with an anxious petition to all your correspondents who may favor the project, to take the matter in hand, without delay; but I especially entreat that most active and zealous friend of our cause—Mr. SOLON ROBINSON, once more to sound his trumpet in summoning all the true lovers of American Husbandry, to a cordial co-operation in the promotion of a project, which I verily believe if once achieved, would become more and more popular with the American people, in all time to come. I remain, gentlemen,

Your friend and constant reader,

JAMES M. GARNETT.

Elm Wood, Essex Co., Va. Nov. 9, 1840.

THE CURCULIO AND FRUIT WORMS.

MESSRS. EDITORS—In the September number of the "Cultivator," (page 136,) you say in answer to a correspondent, that "the worm in the *apple* as well as in the plum and cherry, is a species of *curculio*." Also, that "the worm with the fruit, falls upon the ground, *in which the worm takes up its abode in the chrysalis state, until revivified and changed by the spring, it issues a perfect insect.*"

I am well convinced there is a mistake here, in two particulars: 1st, as to the worm in *apples* being a *curculio*; 2nd, as to the curculio *continuing in the ground till spring*.

In 1831, seeing it stated in all the books that the curculio, in its chrysalis state, remained in the ground during winter, I undertook to verify the fact by actual experiment. The result was communicated to the "New-York Farmer," (vol. iv. p. 178–9.) But as many of your readers have probably not seen that book, you may do a service by publishing an extract from it.

"I put some moist earth into a tumbler, about the first of June, and placed about twenty small peaches, containing worms, upon the earth, and covered the tumbler with a piece of glass. June 30th, the worms had all left the peaches and had all crawled into the earth below. July the 7th, the worms had divested themselves of their skin, without having formed a shell or cocoon, and were nearly changed to bugs. At this time they were white, and showed upon the breast the soft rudiments of the proboscis, legs, and wings. These parts had not attained their full size, and appeared immovable. One insect, however, had completed his metamorphosis and was a perfect bug, of a mahogany color. All have since left the earth of their own accord, having finished their change, and are now [July 19th] creeping about the tumbler and feeding on a plum leaf. On the 10th of July I opened the ground under a peach tree and found the insects in great numbers, from two to four inches beneath the surface, in all stages of their metamorphosis. July 19th, I found *one* in the earth under an apple tree, but could find *none* under peach trees. It appears then that *this insect retreats into the earth about the first of June, where it divests itself of its skin, and changes into a bug before the 19th of July, by which time it leaves the earth.* What becomes of the bug from July to May following, remains to be discovered."

"The curculio is not the only insect that produces the worm in our fruits. I stated above that about twenty peaches were placed in the tumbler. In the earth under them were six small, oval cocoons, thick, strong, and smoothly spun, which contain worms that manifest no approach toward a change. The same cocoons are also found under peach trees. The worms in these envelopes are different from those of the curculio; they are smaller, they are white throughout, while the larvæ of the curculio have orange colored heads. There is reason for the belief that the larvæ of the curculio, all or most of them, leave the various fruits in which they are deposited as early as the beginning of July, and that the worms found in fruits after that time, have a different parent. Some years ago, I preserved a worm from a Vergalieu pear, which produced a *gray miller*. Last November a worm from a Newtown pippin placed itself in a cavity on a board, covered itself with a web, and remained till April, when it produced a *gray miller* like that produced from the pear."

I continued my observations during that summer, and sent another communication to the "New-York Farmer" (vol. iv. p. 248,) from which the following is an extract: "I have said there is reason for the belief that the larvæ of the curculio, all or most of them, leave the various fruits in which they are deposited as early as the beginning of July, and that the worms found in fruits after that time have a different parent. One reason for this belief is, that after that time very little fruit is left in which their eggs can be deposited, and what little is left is, for the most part, untouched by the curculio. Let me present a hasty estimate of cherries, apricots, plums, and peaches, in my orchard; on the first of May last, there were probably 200,000. On the first of July, the number remaining on the trees did not, I am confident, exceed 500. Of that 500 perhaps 20, before the middle of August contained a curculio; the rest continued fair. I think it would puzzle Dr. Tilton to say where that vast multitude of curculios that deposited 199,500 eggs before the first of July, have deposited them since that time, if they 'continue their ravages,' and equally puzzling it must be to devise a reason why any fruit has escaped—why only 20 eggs should be deposited, and 480 peaches left undisturbed, if this vast swarm of insects has continued its operations ever since the first of July. It may be said that they resort to apples and pears. But before the first of July the greater part of the *apples* had also disappeared from the trees; most of those remaining have continued since untouched by the curculio. *The worms found in them are not the larvæ of that insect.* I have not succeeded in finding a curculio in a pear, at any time. The only worms that I have found in pears, [and I have taken pains to collect a considerable number this summer,] are the larvæ [I believe] of the *gray miller* mentioned in my former communication. They resemble the larvæ of the curculio in having orange colored heads, but differ from them by being larger, and having a slight tinge of scarlet or brick color upon portions of the body. Instead of popping into the ground, they crawl under the rough bark of the trees, inclose themselves in a web, and are transformed into a chestnut colored chrysalis. Placed in a tumbler with moist earth, they form a web upon the cover of the tumbler, and there undergo their change. As none have yet left the chrysalis state, I suppose [as was the case with those which I have before preserved] that they do not complete their metamorphosis till spring. All the worms found by me in *apples*, since the first of July, *have been similar to those in the pear.*"

An excellent observer, DAVID THOMAS of Cayuga, maintained the prevailing opinion in regard to the worms in our fruits, and with a view to show that I was incorrect, he took "a worm with an orange colored head, from a bell pear and put it in a tumbler, with moist earth," on the fifth of August. On the eighth of August he took from *apples* "three more worms with orange colored heads, and which appear to be the full grown larvæ of the curculio—another similar, but only half as long—and two others resembling the former with brown heads, but 100 [10?] times less in bulk than the first kind. Viewing these last under the microscope, I am satisfied that they also are larvæ of the common curculio, thus far confirming Dr. Tilton's remark that this insect 'continues its ravages from May until autumn.'"—*New-York Farmer, vol.* iv. *p.* 205.

In a subsequent communication, in October, with his accustomed candor, he says, "N. Darling may be interested to learn that the worms which I confined, 'with orange colored heads,' left the moist earth, and encased themselves in a web under the cover of the tumbler. Soon after one of them came forth a *dark gray miller*; and *I conclude there was no curculio amongst them.* We are therefore indebted to him for the interesting discovery that the larvæ of *several* insects feed on our fruits; and it is now rendered at least probable that Dr. Tilton ascribed too much of this mischief to the curculio."—*New-York Farmer, vol.* iv. *p.* 281.

With these facts before us I think we may safely conclude that the *worm in apples is a larvæ of a gray miller*, and *not of the curculio, which is a bug.* Also, that the curculio *leaves the ground in a short time after entering it.* Its *winter retreat* has not, within my knowledge, yet been discovered.

If your correspondent will look under the rough bark of his apple trees in October, he will find a great many of the worms from his fruit, *which have shut themselves in with a web*, and *are transformed into a chestnut colored chrysalis.* If he will carefully preserve them, he will find them coming out a *gray miller.* By simply scratching off, or rather picking off this rough bark [the scales or flakes, I mean] a vast multitude of these insects may be destroyed—not all, however, for they resort to other places of concealment, such as crevices in boards, posts and rails. Yours very respectfully,

N. DARLING.

New-Haven, Conn., September 19, 1840.

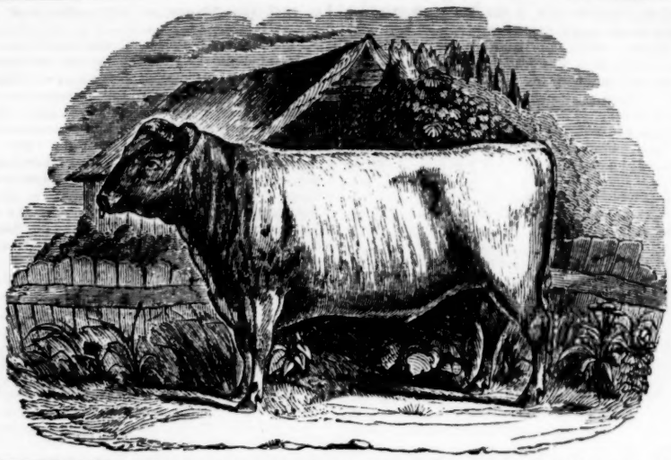
A FAIR CROP.

MESSRS. GAYLORD & TUCKER—I planted a piece of sward ground, without any manure, to corn, potatoes, pumpkins and beans, measuring 104 rods and 207 square feet, on the 20th of May.

To corn, pumpkins and beans, 78 rods and 107 feet, which produced 85 bushels of ears corn, at 2s. per bushel,	$21 25
207 bundles stalks, being topped,	2 07
½ bushel beans, 10s. per bushel,	63
Husks and bottoms left in the field,	2 00
190 pumpkins 8s. per hundred,	1 90
Product of less than half an acre,	$27 85
26 rods and 100 feet to potatoes, 48½ bushels at 20c. per bushel,	9 70
	$37 55
Tending and seed,	10 68
Leaving a profit of	$26 87

It will at once be seen that the above is a very large crop, although at first sight it would seem that $10.68 worth of labor and seed, laid out on so small a piece, was too much, yet it leaves $26.87 profit including interest on land, which certainly pays well for the extra labor. It was plowed in the best manner and deep. In planting, every sod that lay up loose, was put down with the foot, which accounts for two days occupied in planting less than three-fourths of an acre; it was hoed but twice, but well done, and no plaster on seed, or after it came up; once dressed with unleached ashes. C. M. L. A.

Macedon, N. Y Oct. 3, 1840



SHORT HORN AND GALLOWAY BULL SIR WILLIAM WALLACE—[Fig. 93.]
The property of EDWARD BEMENT, ESQ., *near New-Brighton, Staten Island.*

MESSRS. GAYLORD & TUCKER—I was much gratified to find you had commenced giving portraits of superior animals in your valuable paper, in July last, by presenting that of "President," the property of Messrs. Gaylord & Fuller, as being the best way to convey a description, and placing them in a situation to be viewed by persons at a distance; as well as giving to those unaccustomed to the different herds and breeds of cattle, an opportunity of forming some idea of their general and peculiar points and form. It will go far to correct the taste, and form an opinion of what constitutes a *good animal*. By comparing the portrait of *Oneida* or that of *Julia*, with a calf or cow in their own yard, they can see at once how near they approach them, and where they are deficient. And by looking at the portrait of President, and comparing it with a bull they are breeding from, they can form some idea of the good points or defects in their own animal, although I do not consider him a perfect bull.

There is one difficulty, however, not easily overcome, and that is to find competent cattle painters. Now, I am well acquainted with the form and points of the bull President, and have bred to him, and think I can see a general resemblance in the portrait, still it will not bear scrutinizing closely, unless he has altered since I saw him. Possibly the engraver has not been faithful in transferring it to the wood, nor is the execution equal to some others which have appeared in the Cultivator since. "Oneida," "Dallimore," and "Julia" are all well engraved, and reflect great credit on the artists who executed them.

Now, as the demand increases and suitable encouragement given, cattle painters will spring up among us and be found equal to the task. It requires as much, if not more study, than to paint a portrait of the human face. In animals it is not only the face and head, but the whole animal must be a portrait. I find I am wandering from the object of this communication, which was to introduce to the readers of this paper, "Sir William Wallace," who stands at the head of this article, and not to criticise the portraits which have already appeared.

"Sir William" is a beautiful cream color, with a roan head and neck, was five years old last spring—was bred by Mr. Mills, of Long-Island; was got by his imported Short Horn Durham bull "Young Wallace;" dam an imported full-bred Galloway cow.

I saw him in August, and thought he possessed many valuable points, and was so well pleased with him, that I prevailed on his owner to have his portrait taken for the Cultivator, which he has kindly done and sent me. He was in low condition when I saw him, which enabled me to scan him closely, and I must admit I saw much to admire.

The artist Mr. ——, has put him on paper very correctly; particularly his head, neck and fore quarters. He has given him a mild and placid countenance, which he possesses in an eminent degree. He has not, however, given him the breadth of bosom, depth of chest which belongs to him; but take it as a whole it is very clever.

He may be called by some rather heavy about the head and neck, but cannot be called coarse, and for myself, I like that masculine appearance in a bull, for it indicates vigor and stamina.

He measured around the girth 6 feet 9 inches, in length 7 feet 8 inches, 4 feet 2 inches high, and 1 foot 11 inches across the hips, and was estimated to weigh 1,600 lbs.

As I have not seen any account of the Galloway breed of cattle published in the Cultivator, and presuming it may prove interesting to some of your readers, I have transcribed from that valuable work, the "Farmer's Series," on "Cattle," the following description of this breed.

"The Galloway cattle," says Mr. Youatt, "are straight and broad in the back, and nearly level from the head to the rump. They are round in the ribs and the loins. They are broad in the loin without any large projecting hook bones. In roundness of barrel and fullness of ribs they will compare with any breed, and also in the proportion which the loins bear to the hook bones, or protuberance of the ribs. The Rev. Mr. Smith, the author of the Survey of Galloway, says that, "when viewed from above, the whole body appears beautifully rounded like the longitudinal section of a roller. They are long in the quarters and ribs, and deep in the chest, but not broad in the twist. The slightest inspection will show that there is less space between the hook or hip bones and the ribs, than in most other breeds, a consideration of much importance, for the advantage of length of carcass consists in the animal being well ribbed home, or as little space as possible lost in the flank."

"The Galloway," continues Mr. Youatt, "is short in the leg, and moderately fine in the shank bones—the happy medium seems to be preserved in the leg, which secures hardihood and a disposition to fatten. With the same cleanness and shortness of shank, there is no breed so large and muscular above the knee, while there is more room for the deep, broad and capacious chest. He is clean, not fine and slender, but well proportioned in the neck and chops; a thin and delicate head and neck would not correspond with the broad shoulders, deep chest, and close, compact form of the breed. The neck of the Galloway bull is thick almost to a fault. The head is rather heavy; the eyes are not prominent, and the ears are large, rough, and full of long hairs in the inside."

"The Galloway is covered with a loose mellow skin of medium thickness, and which is clothed with long, soft, silky hair. The skin is thinner than that of the Leicester, but not so fine as the hide of the improved Durham breed, but it handles soft and kindly."

"The Galloway cows," continues Mr. Youatt, "are not good milkers, but although the quantity of milk is not great, it is rich in quality, and yields a large proportion of butter. A cow that gives from twelve to sixteen quarts of milk per day, is considered a very superior milker, and that quantity produces more than a pound and an half of butter. The average milk, however, of a Galloway cow cannot be reckoned at more than six or eight quarts of milk per day, during the five summer months, after feeding her calf. During the next five months she does not give more than half that quantity, and for two or three months she is dry."

It occurred to me that this bull "Sir William," would be a valuable animal to introduce into the herd of some breeder, where stock are a little coarse and too high on the legs. But I fear few or none will be found possessing courage or independence enough to try the experiment. This was the cross resorted to by Mr. Colling, which resulted so favorably for him, as will be seen by the following, which is also transcribed from the "Farmer's Series."

"It is a well ascertained fact," says the Rev. Mr. Berry, "that during his career as a breeder, Mr. Colling tried several experiments in crossing, and the breeds to which he resorted on these occasions, being very considerably smaller than the Short Horns, this circumstance tends to corroborate the writer's opinion that he considered it desirable to reduce their size. The cross with the Kyloe led to no results worthy of enumeration; but those with the *polled Galloway* must not be passed over without comment. Before stating the circumstances attending this experiment, it may be proper to observe, that no breed of cattle promised so successful a cross with the Short Horns as the Galloway. They were calculated, by their deep, massive frames and short legs, to bring the Short Horns nearer the ground, and to dispose their weight in a more compact manner; their hardy habits would be essentially useful, and the quality of their flesh and hair were such as to render the experiment still more safe. Add to this, that they could be obtained of a red color; and we are prepared to admit, even without the sanction of a successful experiment, that they were admirably adapted to cross with the Short Horns, standing frequently too high from the ground, not very well ribbed home, and not seldom of loose disjointed frame."

"To this breed Mr. Colling resolved to resort, and though at the time when he did so, the event was regarded with some degree of ridicule by the pure-blood advocates, and comments passed which would have deterred ordinary men from the exercise of their judgment, Mr. Colling persisted."

"He was much favored by circumstances in promoting his object, which was to take one cross, and then breed back to the Short Horn—the only course, by the way, in which crossing can be successfully adopted. To breed from the produce of a cross *directly among themselves*, will lead to the results which have induced many persons, without due consideration, to believe conclusively against crossing; but to take one cross, and then return and adhere to one breed, will in the course of a few generations be found to stamp a variety with sufficient certainty."

"Mr. Colling's Short Horned bull, *Bolingbroke*, was put to a beautiful red-polled Galloway cow, and the produce being a bull calf, was in due time put to *Joanna*, a pure Short Horn; she also produced a bull-calf. This grandson of Bolingbroke, was the sire of the cow *Lady*, by another pure Short Horned dam, and from Lady has sprung the highly valuable family of improved Short Horns, termed in reproach, the *alloys*. How far the alloys was derogatory let *facts* testify."

"It will probably be admitted," continues Mr. Berry, "that the prejudice against this cross was at the highest at the time of Mr. Charles Colling's sale. The blood had then been little if at all introduced to other stocks, and it was manifestly the interest, whatever might be the inclination of the many breeders, who had it not, to assume high ground for the pure blood, and to deprecate the alloy. Under these untoward circumstances for the alloy, what said public opinion, unequivocally certified by the stroke of the auctioneer's hammer? *Lady*, before mentioned, at 14 years old, sold for 206 guineas. *Countess*, her daughter, nine years old, for 400 guineas. *Laura*, another daughter, four years old, for 210 guineas. *Major* and *George*, two of her sons, the former three years, the latter a calf, for 200 and 130 guineas; besides a number of others, more remotely descended from Lady, which all sold at high prices, in fact, in a sale of forty-eight lots, realizing £7,115 17*s*. Lady and her descendants sold for a larger sum than any other family obtained."

CALEB N. BEMENT.

Three Hills Farm, Nov. 1840.

TO MAKE HOME PLEASANT.

The way to make a man's home more pleasant than any other place, is that he should endeavor to please his wife, and accommodate her with every convenience, that she may have his meals, &c. prepared with the least possible attention and labor. There should be good water near at hand, an article wanted every few minutes; a house well planned, and every thing so arranged as to facilitate her operations; hence the necessity of her having every convenience to direct her servants in the performance of this three times a day business, of all others the least animating, as it is never done; she will, as she ought, enjoy her husband's smiles of approbation for her attention and good management, and also partake with him of the good things prepared by her care; yet this is often her principal remuneration for a sameness, is in her employment which continues through life.

But the husband has many things to stimulate him to exertion. Sometimes popularity, or a prospect of gain. If a farmer, his growing crops; the increasing thriftiness of his stock; and more than all, the amount of annual receipts arising from a well conducted farm all combine to encourage him and lighten his labors; his wife having her household affairs well arranged is thereby enabled to assist in the despatch of his business, by having her part regularly performed, establishing a union of interest, and consequently affection, which never fail to make home desirable.

But as money alone will not make home pleasant without a proper expenditure of it, and as we all have appetites and senses to please, the necessity of planting around our dwellings a variety of best fruits is obvious to every one, such as will furnish the kitchen and table with a succession all the year; also a portion of the grounds should be suitably planted with ornamental trees, a part evergreen, and a part with deciduous shade trees; the former by their dense green leaves protect from the north-western blast, and their lively appearance beguile the gloomy aspect of winter, whilst the broad leaves of the latter planted along the avenues afford a shade from the scorching sun.

The yards and garden may be adorned with flowers to bloom in succession all the season, but to attain both profit and pleasure from fruits and flowers, they should be planted in a soil somewhat rich, and receive regularly during the summer season sufficient cultivation to keep the ground mellow and free from weeds—these together with good farm crops will render a man independent; he visits his neighbors more from duty or necessity than pleasure; he enjoys more at home. A family thus situated has great cause to be thankful to a kind providence for blessings bestowed, and they should be very cautious about selling a home thus improved, if middle aged or in the down-hill of life; as many thereby unsettle and unfix themselves at a time when rest and repose are desirable and disqualify themselves from answering the great end of their creation.

ROBT SINCLAIR, SEN'R.

Clairmont Nurseries, near Baltimore, Md., Sep., 1840

LETTERS FROM THE WEST—No. 3.

Columbus, Ohio, Oct. 1840.

I took the canal route to this place, the first part of which I found dull enough, for though the country is said to be picturesque and tolerably well settled, and cultivated all the way, yet after leaving the fertile bottoms of the Cuyahoga, the water line is bounded almost entirely to Akron, by a thick belt of forest and undergrowth, alternated by high embankments, which greatly circumscribe the view to the traveler, and I was not sorry, therefore, that this section was to be passed mostly in the night. We arrived at Akron, 38 miles from Cleveland, early the following morning, and found it situated on the summit level of the canal, 395 feet above Lake Erie. Here the little Cuyahoga gives a considerable and never failing water power,—inexhaustible mines of iron ore, and the best of bituminous coal are found in the vicinity. Akron has consequently risen within a few short years, from a paltry place of a dozen or so log huts, to quite a manufacturing town of about 2,000 inhabitants, abounds in mills and furnaces, that I suspect are but a small earnest of what they will be hereafter.

There are sixteen consecutive locks to be overcome here, and being single, and something of a crowd of boats to pass up and down at the time, I made the best use of the delay I could, by taking a stroll through the town. We had a pelting shower during the whole time, but rain never deters me from any enterprise, so spreading a rude umbrella over my head, and rolling my pantaloons up to the top of my boots, I gave a wide leap from the deck of the boat and trudged away. There are some fine buildings here, and a pretty view of the adjacent country from the hill back of the churches, and so well as I could judge, the soil seemed to be of a loamy gravel, and sufficiently fertile for all ordinary farming purposes. I should suppose it an excellent district around here for sheep, but unfortunately I found no one who could give me any positive knowledge as to whether they were bred to much extent or not in this vicinity, or indeed of improved stock in general. But the want of information on these points, was probably pretty amply compensated by what I obtained from a sort of Natty Bumpoo dried up coon skin looking old fellow on another, viz: "that beaver here abouts in the ponds, that foolish canal and milling folks *was* drying off as fast as the rain would let 'em, was kind o' plenty when he first knowed the woods, hang their skins for scaring 'em off, and a feller like him out of an honest livin', and if he warnt so old," he added, "he'd soon be off to the Rocky Mountains, where he thought a body would'nt be troubled by this sort o' game for one etarnal while." I presume he was one of those whose steps had rapidly been followed up, by the march of western civilization for the last half century, and he had now found himself, in his old age, entirely overcome and surrounded by it to his great sorrow, and as for sheep thinks I, versus beaver, I 've worn their fur in the shape of a hat now this many a year, but I always found the latter so much lighter and more agreeable than the former, that upon recollection, I could not but sympathise in the querulousness of the old trapper, so giving him a hearty shake of the hand, and telling him since beaver had fled, I hoped he had found plenty of other more profitable occupation, each turned upon his heel and went on his own way.

After passing Akron, some little distance, we began to look down, and now found ourselves in a more open and thicker settled country than we had before passed through. We were not long in approaching Massillon, a fine flourishing town of about 3,000 inhabitants. This place again has almost entirely grown up, since the Ohio canal was cut through, some ten years or more since. It is situated in what I was informed, is the best wheat district of the state, and abounding in water power, its mills have become celebrated at the east. Of the interesting German colony at Zoar, I hope to speak at length hereafter, so coasting along down the beautiful waters of the Tuscarawas, with now and then a pleasant village interchanged with an open forest, and a delightful farming country, crowned with numerous stacks of grain and hay, and glittering in tall corn fields, we crossed over from Jefferson to Newark. This is not quite so showy and large a town as Massillon, but is much older and abounds in wealth, and from the fertile country that surrounds it, must ever continue to flourish and be one of the most important inland towns of Ohio.

It is not till we arrive at Lockbourne, that we fairly burst upon the wide rich bottoms of the Sciota, celebrated the country over for being the finest corn district, taking its whole length and breadth, to be found upon the face of the globe, and I must confess, as much as I had been prepared by reading and conversation to see "a pretty tall sight," as an urbane fellow traveller expressed it, "in these ere diggins," I was absolutely amazed when rising a small eminence, I got a commanding look around me. It was not exactly a *sea*, but it was a pretty fair *lake* of corn spread out before me, and I can compare it to nothing else that I ever saw, but the extensive plains of wheat, that stud the middle counties in harvest time of western New-York. But the corn here is much the more extensive of the two, and I think myself within bounds when I assert, that in occasional bends of the river, the views would extend from four to seven miles, and perhaps more in length, and one to three in breadth, of almost uninterrupted fields as thick as grass, and in stalks far above the reach of the arm of the tallest mountaineer. There thought I, is feed for the public, and a glorious vision for any one that happens to be in the fear of starvation. Why a whole nation might come here to take a nibble, and then I suspect that there would be enough left to make considerable of a husking and as to pumkins, they were as thick in the fields as stars in the skies, and to get at the number of loads of which would require all the deep cyphering of the celebrated Jack Downing. I have thought it quite a pity, that the gallant Major when out here, was so engaged by political matters, that he could not have just made the attempt at calculation—no doubt that the simple effort would have got up a batch of pies, big enough to have treated all his worthy relations down east, through an arduous thanksgiving, to say nothing of half a wintering to boot. But I am quite at the bottom of my sheet, and the Valley of the Sciota, its products and stocks, are deserving of a chapter to themselves, which I shall endeavor to give your readers in my next.

Of stock between this and Cleveland, I am told there is some very good, but much more sparsely located than the wants of the country and the interests of its cultivators demand. Let us hope that it may spread widely from this Valley, and other favored parts of the state, for the crops throughout are so abundant of grain, grass and roots, that the producers are puzzled to know what to do with them, than to feed to cattle and swine. Corn commands now only 12½ to 15 cts. and wheat 45 to 50 cts. per bushel. Hay in the country 2 and $3 per ton, and grass knee high, that will be a good bite in this mild climate all winter, for merely the asking!

A. B. A.

TO WESTERN EMIGRANTS—No. 2.

Messrs. Editors—Since reading my first article of advice to emigrants, I have concluded to risk throwing away a little more advice, and shall endeavor to point out "who would be likely to benefit themselves by emigration."

Young hearty men, married or single, mechanics, or laborers in agricultural employments, who with an untiring industry are unable to "get ahead in the world," if they emigrate to the west, and pursue the same industrious course, will find their situation improved by the change. But let no one come here with the expectation of finding wages higher, provisions low, land so cheap that he can get an 80 acre *farm* for $100, and consequently that he will be able to acquire an independence with little or no exertion on his own part. True, land is cheap—it is hardly possible to imagine a soil more rich, but land bought of the United States at $1,25 an acre, is not a cultivated farm.

And although it is easy to bring dry prairie land into cultivation, it requires a persevering industry on the part of the settler, sometimes accompanied with great privations and hardships for himself and family; and in this case, "a bad beginning" does not "make a good ending."

Thousands, who were "well to do in the world," in the eastern States, and who on an old improved farm would have continued "well to do," have had their minds highly excited by overwrought pictures of "a paradise of a place" in the west, and without stopping to inquire whether they were fit for pioneers, have rushed upon the shipwreck of their hopes, health and happiness of themselves and families.

Upon the other hand, thousands are toiling from year to year as tenants or owners of some barren little spot, who might with similar industry in this country, become large and wealthy farmers. For what their own little farm or other spare property would sell for where they are, they might procure a farm for themselves and each child around them. A farm, did I say? No, not a farm, only the raw material out of which to manufacture one, by long and constant toil. But then that toil is cheered and supported by the constant exciting pleasure that an industrious man always feels while "making improvements," while creating new things. But I have known many emigrants to this country, who were totally incapable of making the necessary improvements to render themselves comfortable, and after a few months of vexation and trouble, after exhausting almost every thing they possessed, have returned to the place from whence they came, to curse the country and discourage others from emigrating, who under the same circumstances, would have laid the foundation of a fortune for themselves and children. Had some of these disappointed seekers after the paradise of their distorted vision, first inquired whether they were at all fitted to perform the pioneer duty of a new settlement, they might have saved themselves much money and vexation. Let the emigrating disposed person, then seriously inquire whether he is going to benefit himself or not, above all things, let the wife and daughters know what they have to go through in a new country. I have known some that have come to the west with high wrought fancies of romantic felicities, who have removed to weep with bitter disappointment; such do not make happy, contented, good citizens. But had they "known the worst at first," they would have met it with fortitude; and enjoyed life in a log cabin, better, perhaps, than they had formerly done in a large mansion house.

Let those who are unwilling or unable to bear hardship, or who are unwilling to humble themselves to a residence in a log cabin, remain where they are a little longer. The west is no place for pride or laziness; we want industrious farmers and mechanics; we don't care how poor a man is, if he is industrious, he cannot remain poor. We are also glad to see the wealthy come too, particularly when he brings along a lot of choice stock, as many of late do.

There is one more class of inhabitants that we need; that is, able and efficient teachers of common schools. It is one of the difficulties that all new countries labor under, the want of good schools. Dollars and cents are of so much more importance to many men, than the education of their children, that they are unwilling to incur any extra expense; and in many cases, the difficulty of obtaining a teacher without taking any trouble, keeps a neighborhood destitute of a school for a whole season.

But enough at present; in my next, I have some idea of drawing a picture of "making a new settlement in the west," for the amusement of emigrants, or those that intend to be such. Your old friend,

SOLON ROBINSON.

Lake Court House, Ia., Oct. 20, 1840.

USE OF BARILLA IN VIRGINIA.

Editors of the Cultivator—Having seen in the October No. of your valuable paper, an inquiry respecting the best mode of applying barilla, or leached ashes, to the soil, and having made several trials of it, I deem it my duty to give the results of my experiments in its use. I must premise by saying that until I commenced the use of it, those who had it to dispose of, were in the constant habit of selling it to the captains of the northern vessels, *as ballast*, on their homeward voyages, at about *seven cents* per bushel. My first trial of it, was on a small lot of ruta baga; a part of the lot was highly manured by my cows during the preceding winter, and the balance with barilla, at the rate of about 100 bushels per acre; the portion having the barilla was decidedly the best. The next spring, I tried it on my corn, by putting it in the hill before planting, and chopping it well in, at the rate of about 50 bushels per acre; but I found it too hot to be applied in this manner, although the corn was improved by it. I can now plainly perceive the benefit arising from its use, by the improvement to the succeeding crops. My third, and in my opinion, most successful mode of using it, was by scattering it on a heavy coat of weeds in the fall, and plowing it under immediately, the land being intended for corn the ensuing year. By the side of this piece was another highly manured with compost from my farm yard. I think the corn was better on that part having the leached ashes; and the succeeding crop of oats and clover was greatly superior. I have used it this fall on my ruta baga at the rate of 100 bushels per acre. My crop is only a moderate one, having been sown late, and the fall being too dry for it.

The dawn of a better day for agriculture is appearing to the view; and our southern farmers, profiting by the examples of their northern brethren, are beginning to turn their attention to the improvement of the soil, the first grand desideratum of which, is the increase of manures. It is not, as formerly, the object with Virginia farmers to see who can first procure a crop of broom straw and pine from their land, but who can improve his land fastest. Several years ago, I remember to have heard gentlemen, who called themselves *farmers*, say that they had no time to devote to *making* manure; and that they hardly had *spare time* to haul out what was made in the ordinary way. This reminds me of an anecdote told of a gentleman formerly a resident of King & Queen county, who said he never made but one *good* crop of wheat, and it nearly ruined him to get it to market. Yours truly, RICHARD HILL, Jr.

MINER'S PATENT PUMP.

Messrs. Gaylord & Tucker—For several years past I have been in want of a new pump for my well, which is 18 feet deep. Wherever I have been, I have carefully examined all the pumps I could see in use, and read all the advertisements and recommendations, but could light upon none that suited me, till I saw Mr. Bement's description and notice of Miner's patent pump in the first No. of the current volume of the Cultivator. As soon as I could, I procured one, and have had it in use several months. It more than answers my most sanguine hopes. A child four years old can draw water with it with ease; and it discharges water fast enough for any ordinary purpose. I sincerely wish others to be as well accommodated as I am.

SAUSAGE MAKING.

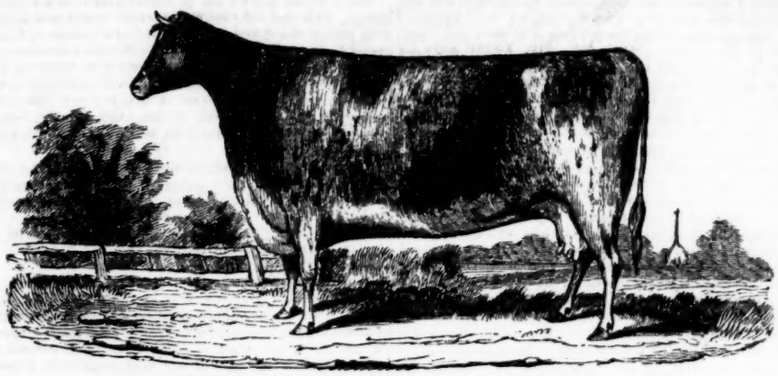
Should you think our mode of making sausages worth a place in your chapter on domestic economy, you can place it there.

We prepare our sausage meat in the usual way. Then instead of putting the meat in skins, prepared from hogs' entrails, we make bags of white clean cotton or linen cloth, as large, say as a man's arm, larger or smaller as may suit, and of convenient length, say about a foot long, and put the sausage meat in these bags, and hang them up to dry. In this way, we save much labor in preparing the skins, and considerable in cooking; we slip off the bag from so much as is needed, and cut the sausage into slices of sufficient thickness for coooking. I much prefer sausages put in bags to those put in skins, as they keep more moist. Others, for the same reason dislike them. Respectfully yours,

CALVIN BUTLER.

P. S. Ripe elder berries make good pies. Try them, ladies. C. B.

Plymouth, (Conn.) Sept. 17, 1840.



MR. PRENTICE'S SHORT HORN COW APPOLONIA—[Fig. 94.]

MESSRS. GAYLORD & TUCKER—In the accompanying cut, I think you will recognize my cow "APPOLONIA," which you have frequently seen at Mount Hope, except, perhaps, that she is made a little too long in the body and neck; otherwise it strikes me that it is a most perfect likeness. She is one of those I selected in the spring of 1838, from Mr. Whitaker's stock in Yorkshire, England, then in calf by the celebrated bull "Prince of Northumberland," and is by good judges pronounced to be a most perfect model, and combining I think as many good points as any cow I have known. She is a very superior milker, indeed such a tendency has nutriment to the pail, that during the milking season, with her a very long one, it is almost impossible to keep up her flesh; but no sooner is she dry than with astonishing rapidity she puts it on; illustrating perhaps a universal fact that the best milkers (quantity and quality considered) are the best feeders, though this rule will not always work the other way; but that it is entirely within the control of breeders to make the improved Short Horns every thing that can be desired for the dairy, I have no doubt; and in accordance with this belief I have observed the practice to be in England, and so would it probably have been here but for the paucity of their numbers and the justly high value put upon their peculiar combination of other perfections.

You may recollect among the herd at Mount Hope, is a large cow we call "Susan," imported by Mr. Smith, an Englishman, formerly of this city; from her we have taken regularly through the favorable season over thirty quarts of milk a day; and her family, of which there are several, all give evidence of possessing the same properties. Now can any one doubt but that by crossing these with that of the cow whose likeness is given above, or with any other of like character, the issue would be a great improvement, even for milk, on the best of our native stock; but since the opinion seems to be generally entertained in this country that the improved Short Horns are not desirable for the dairy, while I feel persuaded the fact is otherwise, will you allow me to quote from Mr. Dickson, a very intelligent writer on cattle, (see the Dec. No. of the 2d vol. of the Cultivator,) who says the owners of public dairies in London, Edinburgh and Liverpool, prefer the Short Horns, as the greatest and most steady milkers, and that it is now difficult to see cows of any other breed than Short Horns, or crosses with them, in their stalls. Mr. C. H. Bolton, in a communication to the British Farmer's Magazine, says he is justified in asserting that improved Short Horns, inferior to none for the grazier, may always be selected and bred with the most valuable dairy properties—that even a moderately good milker of this kind will be found to yield as much butter in the week as one of the unimproved giving a much greater quantity, and that reasonably nothing less could be expected from an animal so proverbially given to excessive secretions of flesh and fat, than that she would also produce other rich secretions.

The last authority I shall mention is Mr. Youatt, in his excellent treatise on cattle, when, in speaking of the dairies that supply London and its environs with milk, he says, "they are composed, with very few exceptions of Short Horns, and almost invariably with a cross of the improved blood; that many of the cows in the London dairies are as fine specimens of improved Short Horns as can probably be produced;" and he very justly remarks that the universal preference given to this breed by such a body of men, differing materially on many branches of the treatment of cattle, is perfectly satisfactory as to their value; and farther, that whenever the improved Short Horns have been crossed with other cattle, their superiority is equally manifested in respect to dairy qualifications, as in every other. Now if this evidence is sufficient to show that improved Short Horns are not necessarily bad milkers, then do I think it will be admitted that, well selected, they do possess a combination of perfections, and that the stock of our country would be immensely increased in value by adopting them.

Their early maturity, combined with the capacity to continue growing; their disposition to carry flesh, to feed rapidly and make a great return for the food consumed; the quality of their beef, the hardiness of their constitution, their mild and quiet temperament and the beauty of their form, I believe it is generally admitted cannot be surpassed.

I am gentlemen, truly yours,
E. P. PRENTICE.

Mount-Hope, near Albany, Nov. 16th, 1840.

THE HEREFORDS, SHORT HORNS, &c.

MESSRS. GAYLORD & TUCKER—In the August number of the Cultivator, Mr. BEMENT of Albany, expresses the opinion that the statement made by me in a previous number, "*that the Durham would lost in milking properties by a cross with the Devon or Hereford*," was incorrect. Mr. Bement's skill as a breeder and his candor as a gentleman, to both of which I am happy to bear ample testimony, entitle his opinion to much respect. The subject too, derives additional interest from the recent importation of Herefords, and the introduction of several valuable herds of Devons into our state.

The essay of mine from which Mr. Bement quotes, was designed rather to correct several popular errors, than to furnish a text book for the scientific breeder. But brief and imperfect as was the account it contained of the Herefords, much subsequent examination both of English writers and living English breeders, has only confirmed me in the correctness of the positions therein assumed, particularly of the one controverted by Mr. B. His evidence, founded on the results of his own experience, is good as far as it goes—but a few instances do not establish a rule. The entire preponderance of testimony both of writers and breeders in England, is *against* the milking properties both of the Devon and the Hereford. The work on British Cattle by Mr. Youatt, is acknowledged *the* standard work of the day on the subject on which it treats. Mr. Bement relies on it as *his* authority in *favor* of the Herefords. On the same page from which he quotes, I find the following (one would think) conclusive statements—"The Herefords are far worse milkers than the Devons. This is so *generally acknowledged* that while there are many dairies of Devon cows in various parts of the country, *none of which however are very profitable to their owners*, a dairy of Herefords *is rarely to be found*." Again, "the Hereford cow is apparently a very inferior animal. Not only is she *no milker*, but even her form has been sacrificed by the breeder." Our friend of the Three Hills Farm, is, I presume, too good a lawyer to attempt to invalidate his own witness!

If such *are* the facts, how are we to suppose that the Short Horns, concededly the first breed in England or America *as milkers*, will suffer no deterioration in this property, by a cross with a breed so decidedly inferior! Whatever results individual experiments may have led to, such a position would be at variance with every established maxim of breeding.

I desire to be distinctly understood in my remarks as taking no ground against either the Devon or the Hereford, except in the single point involved in this controversy. The stylish and high-bred Devon has always been a decided favorite with me. Of the Hereford I know little personally, but am prepared from the English publications of the day, as well as the testimony of American breeders, to believe that in positions suited to them, they may be regarded as a valuable acquisition to our American breeds of cattle. On the large and little cultivated prairie farms of the western states, where early maturity and milking properties are of comparatively little consequence, and where they must be driven great distances to market, the Hereford can have few equals. The Hon. HENRY CLAY, of Kentucky, was the first importer of this breed into the United States, and the following extracts from a letter which I received from him, bearing date September 21st, will I doubt not be read with much interest:

"I first imported, upwards of twenty years ago, two pair of the Hereford reds, and bred from crosses between them until I was induced to discontinue, in consequence of an apprehension that I should breed in-and-in too far, which in some instances I found to be the case. I could not obtain conveniently crosses from other females of the same race."

Mr. CLAY afterwards remarks:

"My opinion is that the Herefords make better work cattle, are hardier, and will, upon being fattened, *take* themselves to market better than their rivals. They are also fair milkers. On the other hand, the Durhams, I think have the advantage in earlier maturity, in beauty, and in the quantity of milk which they will yield. They will also attain greater size and weight even."

"The choice between the two races should be regulated somewhat by circumstances. If one has rich, long and luxuriant grasses, affording a good bite, and has not too far to drive to market, he had better breed the Durhams, otherwise the Herefords."

After some remarks in relation to the origin of the two races, he continues:

"The Herefords resemble the Devons—the race of New-England cattle, and a fine race it is. But the Herefords have the advantage over them of greater size, greater length, more power consequently for draft, and are I think quite as quick in the step and as good at the pail."

"I have thus," he says, "expressed my own opinion; but I must add that here, in Kentucky, the Durhams are generally preferred to all other races. Our grasses are rich and abundant, and our blue grass especially (a name improperly given, for it is the green sward) is an object of great admiration. The Durhams are much more generally distributed than the Herefords, there being none of the latter, within my knowledge, but what have sprung from my importation."

Mr. CLAY's opinions cannot be regarded otherwise than as strong testimony in favor of the Herefords—though I presume his general statements are to be understood to apply as much to his *mixed* as to his pure bred animals. That mixture was with the Short Horn, and it is not impossible that this drop of alien blood has had a significant bearing on their "fair" milking properties. Nor is it to be presumed that this cross has resulted in *very* serious deterioration to the Herefords in *other* respects.

Since writing the above, the Cultivator of November has come to hand containing a communication from Mr. SOTHAM, on the subject of the Herefords, in which he takes the same position with Mr. Bement, in relation to their milking properties; and also denies the correctness of other portions of my description of them, in the essay already alluded to. Mr. SOTHAM has doubtless imported some very valuable animals. I have not had the pleasure of seeing them, but have conversed with several very intelligent breeders, who have examined them closely, and who speak of them favorably. One gentleman writes me "They have nearly the size and breadth of loin of the Durham, but are coarser in the head, and are not so handsome."

This is certainly a very different description from that given by Mr. YOUATT. How are we to account for the discrepancy? It is but *six* years since Mr. Youatt wrote, and his remarks cannot therefore be supposed to apply to the breed as they existed "twenty or thirty years ago," as suggested by Mr. Sotham. It is well known too, that his great work on British Cattle was published under the auspices of the Society for the Diffusion of Useful Knowledge; and that he was aided in it by the first breeders of England, who are equally responsible with himself for the correctness of his statements. Writing with little individual interest or bias of his own, it is perfectly apparent through the whole work, that it is his aim to present every breed, possessing any claims, in its most favorable coloring. The quotations made by me are neither isolated nor garbled ones. The history of the struggle between the Durhams and the Herefords, (as well as the Devons, Lancashires, &c.) is the same throughout nearly all the most fertile districts of England. In almost every one the star of the Short Horns has risen to the ascendant. It strikes me idle to talk of "unjust accusations," "prejudice and abuse," as directed towards any particular breed. The contest has been a warm one—many severe things have been said on all sides—but how are we to suppose that the Herefords have been more "abused," or called on to encounter more "prejudice" than their rivals? One would naturally infer precisely the contrary. The Herefords are an indigenous breed—or at all events they separated from the parent stock (the Devon) at a period "whereof the memory of man runneth not to the contrary." On the other hand it is less than a century since a little handful of cattle in the hands of three or four breeders on the banks of the Tees, were attaining that superiority which has since asserted itself, beyond intervening oceans, on the then scarcely discovered Ohio. "Prejudice" is ordinarily enlisted on the side of antiquity, and opposition to innovation. The Herefords were a known and favorite breed, long before the improved family of the Short Horns had their origin. The The Short Horns were the *innovators*—innovators in size, shape, and last but not least in popular estimation—*color*.* Is it not they then, instead of their opponents, which have been made the particular victims of "abuse" and "prejudice." I confess I have always so regarded it. I will cite one specimen of unfairness and "abuse" which has been frequently resorted to against them. It is this. The advocates of other breeds in making their pretended experiments between improved Short Horns and their own favorite breed, in feeding properties, &c. have repeatedly selected the *unimproved* Short Horns (known as Lincolns, Teeswater, Holderness, &c.) to make the trial with, and then published it to the world as a fair experiment! But enough of this.

Mr. SOTHAM differs as widely from Mr. CLAY, as from Mr. YOUATT. Mr. CLAY says, "the Herefords

* I should perhaps except the midland counties where the the Lancashires, Cravens, Leicesters, &c. prevailed, which also exhibited much of the interdicted *white*.

resemble the Devons, the race of New-England cattle." Do the Devons or the New-England cattle approximate in "size and breadth of loin" to the Durham? A single instance of the kind, might well be deemed an extraordinary one.

I will not refer to Marshall, Lawrence, Culley, Loudon, or the other older English writers, because it may be objected that the breed has changed since their day. It may be remarked, however, that they speak of the Herefords, in the same general terms with Mr. Youatt.* I might cite the opinion of many eminent English breeders, residing in this country, in corroboration of their opinions, but shall not do it on this occasion, as it would occupy much space, in an otherwise sufficiently extended article.

I will now ask, if the concurrent testimony of all the standard English writers on cattle, ancient and recent, corroborated too by the statements of many eminent breeders, do not *prove* what the Herefords *have* been,—have been too, if we may rely on the authority of Mr. YOUATT, *until within six years*. If it is pretended that any so great and radical a change has been effected during that period, does it not devolve on him who asserts it, to show and to *prove* when, and where, and how that change has been effected?

If a few specimens of animals, called by the name, are relied on alone to prove it, the question arises, what certainty have we that they truly represent the breed, or that they are pure blooded and unadulterated animals? A Short Horn cross, for instance, engrafted on the Hereford, might work wonders if the color was attended to? It would offer a very convenient solution of the physiological enigma of converting a small, shapeless and milkless cow, into a stately, broad hipped and deep milking animal, *all within the space of six years?* I do not pretend to state that such a cross has been made, because I know nothing about it. Mr. Sotham doubtless ascertained the character of the men he dealt with.

That Hereford oxen, and in some instances cows, have recently received many prizes from English Agricultural Societies, I have no disposition to deny or conceal. The oxen in such cases are exhibited in reference to their ripeness for the hands of the butcher. The Herefords are conceded on all hands to be a breed that feed kindly, and that they should occasionally receive prizes is much less surprising than would be the fact, that they did not. But if a Hereford cow has triumphed over the Durhams, as a *dairy* cow, it is certainly a new thing under the sun, provided the Durhams were properly represented. I presume that no breeder of Herefords *in this country*, will be found willing to challenge the breeders of Short Horns to such a contest.

But suppose we concede the point, that a few English breeders have approximated the Hereford to the Short Horn in size, shape, early maturity, &c., the question immediately presents itself, *cui bono?* If the Durham already possesses certain properties, in the greatest attainable degree, what is the practical benefit of forming a new, or remodelling an old variety, only to attain the same properties? Is it not better to avail ourselves of the skill and industry of those who have gone before us, *commencing where they left off*, than it is to spend our whole lives in trying to overtake them by a road of our own? What should we say of that student of mathematics, who, disdaining to avail himself of the labors and discoveries of a Newton and La Place, should begin *de novo* with the nine digits, and attempt to build up a mathematical system of his own!

But is it contended, that the Hereford, if made to equal the Durham in *its* peculiar points of value, will superadd to them that hardihood and muscular power peculiar to the old Herefords? This cannot be. It is contrary to physiological laws, which every man's observation has recognized. The wild boar of the desert, or the pencil immortalized "Land-pike" of Mr. Allen, is a better traveller and possesses more muscular power than the quiet and fat-secreting Chinese hog. The untamed Argali, that subsists among the rocks and glaciers of the Alps, is an animal of greater endurance and muscular energy than its *descendant*, the New-Leicester sheep. That course of breeding which modelled the Chinese hog, the New-Leicester sheep, or the Durham ox, has, and inevitably must, deprive the animal from which they descended, of that fleetness, strength, and endurance of the rigors of climate, which was *necessary for their protection*, before they were subjected to the dominion of man.

The Hereford, if converted into a Durham, will cease to be a Hereford. Marshall, in giving his eulogistic description of the capabilities of the Hereford ox for labor, did not write of a quiet, sleep loving animal, which would become a lump of fat at two years old. Mr. CLAY, in referring to the same point, said nothing of animals possessing the size and broad loin of the Durham, and one year's earlier maturity.† He spoke of a race "resembling the New-England cattle."

But after all, I am not quite convinced that the Herefords have been converted into Durhams. If Messrs. Walker, Hewer, and other breeders in Gloucestershire, had possessed such animals *six years* since, it is astonishing that they should have escaped the notice of Mr. Youatt—if they have been created (so to speak) since, it is little short of miraculous. On the bleak highlands of Gloucester, no breed has been cultivated, with any very marked success. In the vale of Berkley, (a name so cherished by all the lovers of good cheese!) the prevailing breed is a compound of nearly every thing, the old Gloucester, Hereford, Devon, Durham, Leicester, Suffolk Dun, North Wilts, &c. Mr. Youatt says expressly, "there are (in the vale of Berkley) no Herefords for the pail, a few Devons, some Suffolks, some North Wilts, and the rest Gloucesters, with various crosses." And not a word does he say, of a race of Herefords in this county, equaling the Durhams in size and form, "filling the pail as high as most of them," of one year's earlier maturity, &c. &c.

Now who shall decide when doctors disagree? Mr. Youatt has certainly given as much attention to a comparison of the English breeds as any other individual—is thought in England, to be about as well qualified to arrive at a correct decision as any other individual, and above all, had no personal interest in the result. This last consideration is one of no little import. "It is according to our gifts," as the Pathfinder would say, that every man's goose should have a most swanlike aspect to *himself*. I do not doubt the propriety of Mr. Sotham's motives, or the sincerity of his convictions. He doubtless believes as he would have us believe. He deserves high credit for his enterprise in introducing so valuable a stock of cattle. But when he calls upon us to give up opinions supported by all the best English authorities—opinions until now unquestioned, he must be sensible that we have a right to demand something besides the authority of an interested witness.

Yours truly, HENRY S. RANDALL.

Cortland Village, Nov. 16, 1840.

* Without the trouble of making a reference, it it is my impression, that Cully speaks of them much less favorably.

† As asserted by Mr. Sotham!

MR. SEARLE'S APIARY.

MESSRS. EDITORS—Having received a polite invitation from Mr. JOHN SEARLE, of Franklin, Merrimack co., N. H., who is now on a visit to our village, to call and examine an Apiary of his construction, and its appendages, built on the plan patented by him in 1838, I called Sept. 10, when he showed me the Apiary, and politely explained its construction and pointed out to my notice the several improvements on which his patent was obtained. It can hardly be necessary to say that I felt a sensation of extreme delight when I saw a large swarm of bees, that were found in the woods and taken up the day before I visited him—the bees all saved alive, brought some miles to his Apiary and united with an old stock of bees in a hive that contained a sufficient quantity of honey to keep them all through the winter; and readily uniting their efforts with the old stock to provide and lay up more. To see these little laborers (that during the season have showed themselves patterns of of industry and provident care,) made thus to contribute to man their nectar sweets, and still remain preserved unharmed for future labors and future rich dividends of most delicious sweets is grateful to the humane heart.

The taking of the honey from this Apiary, without the least harm to either the bees or the remaining honey or comb in the hive, is a great improvement by which we can "live and let live," and rejoice while we partake of the "spoils," that the despoiled were not cruelly subjected to torture by fire and brimstone, but may still live on the fruits of their own industry and rear their tender young, for the honey taken from them is made in boxes or specie jars, which are fitted to the top of the hive, and the egg or larvæ of the bee is always deposited in the cells of the comb in the hive, and so of the bee-bread.

By the peculiar construction of the Apiary and its appendages, and their ingenious arrangement, the bees are completely protected from the depredations of their numerous enemies, the bee-moth, mice, &c. and made comfortable through every change of season, and being protected also from robbers of their own species. They are well pleased with their own home, and of course when they swarm they do not seek another.

The samples of honey shown me, made by the swarms in specie jars, were exceedingly beautiful. They had almost the whiteness of snow; and its purity from specks or stains; from the peculiar construction of the Apiary and the arrangement of the hives, the owner can visit and inspect their industrious inmates at all times, free from danger of the sting, as the bees have no access to the room in which the hives stand, but are seen through panes of glass, set in the side of the hive and covered by a nicely fitted sliding blind so as to exclude every ray of light from the hive.

This invention is warmly recommended by Governor Hill, and many other names that rank high in office, in science and in arts in New Hampshire, and approved by experienced apiarians wherever it has been exhibited; and after a close examination of its several parts and conveniences I would cheerfully say in the words of Governor Hill: "It is believed Mr. Searle's invention is an improvement on all others, for the convenient protection and keeping of that highly useful little animal, which might be advantageously multiplied in all our towns."

This Apiary was 12 feet long and 10 feet wide—cost $25. The hives made in a workmanlike manner, cost 25 cents each. In short the edifice and its appendages were economical and ornamental in every acceptation of both the terms; for on this plan of managing bees the small and late swarms are united in the fall season with an old hive or a large swarm that has a store of honey for winter, enough for both.

DESCRIPTION.—Construct an Apiary of any required dimensions:—Elevate it 2 feet from the ground on posts of wood or stone—frame your sills and plates; if you plank the body with 1¼ inch plank you will need no posts; make a tight roof with shingles—lath and plaster the body outside and inside with a good lime and sand cement, to exclude insects and and keep the temperature regular; lay a double floor, with the same cement spread between—on this floor raise an elevation on three sides 2½ feet wide, adjoining the walls, say 4 inches; and spread a coat of cement on the same for the hive to stand on. On the other side is the door, well fitted, with a lock and key. Four feet above this floor is a gallery running around the same three sides for a second tier of hives; the floor prepared in the same manner as the lower elevation. Once in 10 feet on every side is an opening or ventilator, covered with a tin plate perforated like a grater, or a wire screen, to exclude the moths. The spouts for the bees to enter, are made of 1¼ inch plank, 6 inches wide and ten inches long, having two passage ways grooved in the top, 2 inches wide and ⅜ths of an inch deep—leaving in the middle a strip to support the cover. This spout passes through the wall and floor at an angle of 22 degrees entering the room 3 inches from the wall, is made tight with cement and white-washed inside and out with a mixture of quick lime, ley and salt; a lighting stool is placed at the lower end of the spout, having the same angle; one foot above this is placed a board 12 inches wide and sloping so as to shelter the bees and the spouts; the ventilators must have blinds to close them at pleasure.

The hive is made of inch stuff, thoroughly seasoned, clear from knots and shakes or seams—16 inches square—well planed and halved together at the corners—the joints hollowed inwards and filled with the above mixture—across the top are two parallel bars 1 inch square, to support the cover, which is ¼th inch thick. These hives are 12 inches deep or 6 inches as the proprietor may choose, and being all equal of size may be set one upon another as they become filled. These have a glass light with a sliding blind to each. Beside the hives there are boxes say 14 inches long and 4½ inches wide, adjusted to a false top or cover, with passage ways for the bees to each box. These boxes are covered after being adjusted to the top of the hive with a box the size of the hive, which effectually screens the three boxes on the hive from the light, the bee-moth and air. Besides these there are specie jars, adapted with their mouths downward to openings in a false cover, and covered in like manner as the boxes to exclude the light.

For a description of these adapters, the dividers, the feeders and all the et ceteras used by the ingenious patentee, the inquirer is referred to a small and cheap book entitled, "A new and improved mode of constructing Bee Houses and Bee Hives, and the management of the same, by John Searle."

N. B. To be found at Breck & Co's. Agricultural Ware House, No. 52 North Market-street, Boston.

The boxes will hold about 9 lbs. and the jars 3 lbs. each, and I can state from actual observation that a swarm of bees in this Apairy hived about the middle of June last, had on the 10th of September filled one hive 16 inches square and 12 inches deep—one hive 16 inches square and 6 inches deep, nine specie jars, 3 lbs. each; and were then engaged in filling a third hive 16 inches square and 6 deep, this last being half filled.

R. T. COMSTOCK.

Sherburne, N. Y. Sept. 1840.

THE TREE CORN AND ROHANS.

MESSRS. GAYLORD & TUCKER—From the extent of the correspondence to which my article on the beet root and Tree corn has introduced me, published in your paper a while since, I am disposed to believe that a knowledge of the result of my experience with these articles will be acceptable to some of your readers. I have therefore forwarded it, to be disposed of as you please.

In the spring, I prepared an excellent piece of ground, of uniform quality, and planted it in three equal proportions with Tree corn, Red Blaze, and Dutton. The season has been a long one, and very favorable to the growth of corn. The whole came forward and apparently prospered well. I have now completed my harvest, and here follows the result. The Dutton gave me seventy bushels of the finest corn I ever saw, per acre; the Red Blaze gave me fifty, and the Tree corn twenty-five bushels. Last year the Tree corn gave me 106 bushels, more than 50 of it sound and good, to the acre, with stalks more than 10 feet high, and very thick and stocky, with numerous ears upon each. This year, the stalks are between 7 and 8 feet high, slender, with one ear, and sometimes a very small one besides, on each stalk. This result to me was very unexpected. I planted from the finest corn to be selected, and calculated on an improvement, instead of so fatal a deterioration. All my neighbors suffered precisely with myself. Perhaps no corn ever planted in this latitude, if suffered to get ripe, will reward the husbandman so bountifully as the Dutton. For the last two years, I have observed it with much care, and find it about 12 days behind the red blaze, or white flint, in ripening, but vastly superior in product.

In my catalogue of humbugs this year, I place the Rohan potato at the top. As this thing has taken so extensively, it is important that its true character should be promptly understood: and I will contribute my mite of experience to this object. My Tree corn dwindled into insignificance in a hurry, but the Rohan potato has beat it outright in this contest. In 1839, I raised from seed had at Albany, at the rate of 800 bushels per acre; the potatoes of course very large. This year, I planted from my last year's product, one acre; and have now

estimated my crop at less than 30 bushels—the potatoes small and few. The ground was good, the season favorable, and the crop well cultivated. I selected a small spot in my garden, as rich as I dare make it, and planted early with some of the best of my seed; it was nursed with the utmost care, and although the growth of vines was not great, yet the yield was scarcely greater than the amount of seed planted. But this is not all; the quality of the potatoes is abominable: no man would eat them in his right senses; and they are undoubtedly as poor for stock as the table. I have extended my inquires as far as I have been able to do, and find myself as well off with my Rohans as my neighbors. If the quality of the potatoes were worthy of the expense, seed perhaps might be brought from the south, and the product kept up. But as we have so great a variety of better potatoes, I think in this latitude, the Rohan potato will rank with many other exploded humbugs.

Respectfully yours, SAMUEL GUTHRIE.

Sackett's Harbor, N. Y. Oct. 24, 1840.

PROGRESS OF THE SILK BUSINESS.

Messrs. Editors—As many of your readers are interested in the progress of the silk staple in our country, and as many, not directly interested in its prosecution, are nevertheless quietly waiting for the whole business to become so much simplified, by the experience and the improvements of others, as to render it a safe and certain occupation for them to embark in, I should be glad of an opportunity to communicate through your columns, some facts in relation to this interesting subject. My feeding operations the present summer, have resulted in my constructing an entirely new apparatus for rearing silk worms, which I call the "Burlington Silk Worm Frame." It is altogether opposed to the whole hurdle system, and combines advantages so remarkable, as to take away all objections to the rearing of them, as a regular business on an extensive scale. Among these advantages may be enumerated the following:

1. It secures the most thorough ventilation to all parts of the frame on which the worms are feeding, below as well as above, and obliges them of necessity, to clean themselves of their excrement and other rubbish.

2. That part of all former modes of feeding which requires *waiting* for the worms to mount upon fresh foliage in order to clean them, is entirely dispensed with; and though cleaning is never necessary, yet should the worms require changing, it is done almost instantly, a thousand at a time, and without the worms being conscious of the change.

3. The whole apparatus is as portable as a quilting frame; and all the parts which require handling during the feeding season, are as portable as an umbrella, without being liable to breakage.

4. Ventilation and cleanliness are so prefectly accomplished, that disease seems out of the question, unless originating in the egg.

5. The age [from the spinning] of any number of cocoons, from one thousand up to a million, is identified to a day, and they are gathered with six times the facility of the hurdle system, at the same time coming out perfectly clean, and with but little waste of floss.

6. By using branches, cut down with a grass hook or scythe, it saves more than one half the usual expense of gathering foliage and feeding it out to the worms, and more of them are accommodated in the same space, and it is cheaper and more durable than the hurdles.

The vast superiority of this over all other fixtures for feeding silk worms, is such as to be apparent even to persons not acquainted with the rearing of them; while intelligent gentlemen, practically conversant with the business, have pronounced, without a single exception, that it fully accomplishes all that has been said above. It has been tried repeatedly and found successful in practice, and may be seen at the Burlington Filature, where persons interested in the silk business are invited to examine into its merits. It rejects the hurdle system entirely, and is original in all its parts. A frame sufficient to feed 12,000 worms, may be seen at Jos. Leeds' U. S. Silk Agency, No. 2 Franklin Place, Philadelphia, the proprietor of which has been appointed agent for the sale of frames and rights, to whom, or to the patentee at Burlington, application may be made. An engraved view, with a full description, will be sent on application, post paid. Gentlemen about to erect cocooneries will find it highly important to examine the capabilities of this frame, previous to erecting any other fixtures. Many large cocooneries are now being fitted up with it, and others are building, in which no other fixtures will be used. At Halifax, N. C. Mr. H. Wilkes is fitting up a cocoonery, 200 feet long by 21 wide; at Brinckleyville, in the same state, Mr. S. Weller, has also erected a large cocoonery; at Catskill, N. Y. Mr. John C. Johnston is preparing an extensive establishment; at Carlisle, Pa. Mr. R. S. Hall, has just completed a cocoonery 60 feet long; at Concordville, Pa. Mr. James S. Peters will erect one of the same dimensions, and at Bristol, Pa. Mr. C. S. Newbold, is about erecting one of similar size. All these, with others that could be mentioned in abundance, will use the Burlington frame exclusively. Most of them have witnessed its operation here, while the worms were actually feeding on it, and have thence adopted it without hesitation as the only true plan.

It is a mistaken idea to suppose the silk business on the decline. At no time was its extension greater, nor its goodness more apparent to its friends. Silk has been made in quantities, varying from one to fifty pounds, all around me. I have made nearly fifty pounds the present season, and others here have made nearly as much. At the Burlington Filature, which is under my charge, three reels are constantly employed in converting cocoons into raw silk, and the highest price in cash is paid for all that are offered for sale. Between two and three hundred bushels are now on hand, and contracts will be made for purchasing the crop of the ensuing season. The Filature will be extended as the supply of cocoons enlarges.

I have a variety of printed documents, in relation to the silk business in our country, prepared for gratuitous distribution, which I will send with great pleasure, to those gentlemen who write for it without charge of postage. Respectfully yours,

EDMUND MORRIS.

Burlington, N. J. Nov. 13, 1840.

HOT AIR FURNACE.

Messrs. Gaylord & Tucker—I have recently become a subscriber to the Cultivator published in Albany, N. Y. which I find to be a very valuable paper. On perusal of the April No. of said paper I find a description of a *Hot Air Furnace* which has engaged my particular attention. The reason was, it so very nearly resembled a furnace I had constructed in a house of my own built in 1836; I have used that alone since that time to warm my whole house except my kitchen. The part warmed consists of two rooms below 16 by 17 feet square, entry 8 by 16 feet, 2 rooms above 14 by 14 feet, 2 rooms above 8 by 9 feet, entry above, and two rooms above in the L over my kitchen, 8 by 16 each. The construction of my furnace was original with me. I so arranged the arch upon which my chimney was to stand as to make that the furnace of itself which I consider an improvement on yours.

I left apertures 7 inches in diameter, same as those marked in yours E. E., which passes up through both my hearths to supply hot air in my lower rooms which are as before stated, 16 by 17 feet square each. To conduct hot air into my chambers, I left two flues each about four inches square in my chimney which led from the hot air chamber of furnace into each of my two large chambers above, and came out of the chimney about 5 inches above the chamber floor by means of a tin pipe inserted into the chimney horizontally, to extend from the flue into the room. Those pipes can be closed by a tin cover similar to that of a tin pail which can be opened and shut at pleasure. My smoke flue was carried up in the chimney beginning at the hot air chamber, no larger than the stove pipe, and directly between the two hot air flues (with only one thickness of brick between) and extended to the top of my chimney. The stove that I have used is nothing but a common box stove of large size, say 2½ feet long, 16 inches square. Upon the top of this stove I have one large round drum about 16 inches in diameter, and nearly as long as the stove, and above that I had two small drums only six inches in diameter, but extended the length of my hot air chamber, and then into the chimney above. In addition to the above, I had a pipe for hot air made of brick placed upon a plank supported for the purpose to lead from the side of my furnace near the top, and extended about 7 feet through my cellar, (which is kept apart for the furnace) and leads up into my entry by a ventilator. This keeps the entry or hall which is about 8 by 28 feet perfectly warm as well as my whole house. In half an hour after a fire is built in the morning, you would be comfortably warm in any room or entry even when the mercury stands 15° below zero outside, which is not unfrequently the case in this climate. My stove had no grate on the bottom, neither had I an ash-pit. In other respects, my furnace resembles that represented in your paper. This is found such an improvement in this country, that many have followed my example, and many others have even laid by the coal furnaces which are so much cracked up in cities, and adopted mine. The first year I used my furnace, I burnt about 12 cords soft wood, pine and spruce. I would prefer a stove for my furnace such as you recommend, but none are to be had in this section of our country.

Truly yours, LEVI L. LOWELL.

Calais, (Me.) Sept. 27th, 1840.

Rearing Calves on Flax Seed and Hay Tea.

Messrs. Editors—Permit me through the medium of your valuable periodical, to thank my friend of Washington, for his favors bestowed on me, the which through your politeness I have received, and in reply to his question as to my way of rearing calves, I reply that I believe not one of the calves I raised, ever received a drop of milk from the cow My cows were watched closely, and as soon, and in fact in more than one case before they did stand, they were carried in the pen I had prepared for them; their mouths were then filled with salt, (this by the by was done at least once a day, until they were turned in pasture.) In preparing the flax seed, we put half a pint of seed to three quarts of water, and boiled it till it became a jelly; then boiled water on hay, so that when the hay tea and flax seed was mixed, it was but little thicker than milk; this, when about blood warm, was put in a trough, and it was but a little time before this was the only trouble we had with them. We every day put fresh hay in their pen, and I have seen my calves at 7 days old eating considerable of the finest of the timothy hay, and it was really amusing to see the sprightliness of a calf at 4 and 5 days old that had never tasted milk, which is so contrary to the common way of rearing them; but it convinced me of the saying of Sam Patch that some things can be done as well as others. My calves can be seen at any time on my farm in Bethlehem, half a mile south of Albany on the White Hall road. I have never tried this mode of raising pigs, but I intend to with some of the first litter I have, and will let you hear of my success. I see only one obstacle in the way, and that is to learn them to drink, for I think if this method is adopted it must be done without the pigs having any milk. I think we must obey the command in fact and deed to train it up in its infancy in the way we would have it go, if we expect success.

E. S. WILLETT.

THE HEREFORDS.

Messrs. Gaylord & Tucker—Anxious as I may appear to defend the Herefords against all unjust attacks, I hope not to depreciate any other breed by it. However highly I may value their good qualities, there are other breeds that are commendable. I think the right sort of Durhams, hard animals to be beaten, and will never be intentionally depreciated in value, from my remarks. If I advance my opinion to society, I am subject to public criticism, and am ready and willing to meet it. I neither aim at display, or ever expect to derive any pecuniary benefit from it; whenever I am in error, I hope to be corrected; as what I advance is from my own observation and practice, and I trust, founded on facts; when proved so, all I ask, is to have them confirmed. Should they tend to promote the public good, my hopes are realized, the obligation cancelled, and I am satisfied. I will now endeavor to answer the objections brought against the Herefords by Mr. Hepburn.

Mr. H. I see, has read Youatt, and quoted a passage from him that he would do better to reperuse. How far Youatt's practical knowledge extends, is to me a matter of doubt, especially when he says "the Hereford cow is an inferior animal; not only is she no milker, but even her form has been sacrificed by the breeder." I refer Mr. H. back to his own quotation, and he will perceive that Mr. Y. acknowledges the breeder to have attended to form in his cow, to breed a good ox. I would ask Mr. H. if a good ox can be bred from an inferior animal, or if a breed of any kind can be kept up with inferior dams? There seems to me to be something wrong in the remark of Mr. Y. that does not read well to a practical man. I will also refer him to a sale of Herefords twenty years since, that will show they stood high at that time in the estimation of breeders.

A sale of Hereford cattle took place at Wellington, Herefordshire, Oct. 19, 1820, the property and extra stock of the Misses Tompkins, at which 29 lots, consisting of 16 cows, 5 heifers, 2 two year old bulls, 6 calves, were sold for £4,709.7; the highest price was a two years old bull, which sold for £588, or $2,610. The average price of the 29 animals, was £162.7, nearly $800 each. This sale can be referred to by any Hereford or Durham breeder of note in England as a bona fide sale. If Mr. Youatt had been at this sale previous to writing his views of Herefords it might have been couched in a different position; as I cannot allow the good judgment of English breeders to be so disgraced, as to give such prices for inferior animals. I cannot think Mr. Youatt gleaned his information from practical men, or where were the advocates of all other breeds when the owner of Trojan offered to show him against all England for a thousand guineas. This was more than twenty years since; I can refer to date and all particulars if necessary. If he had been an inferior animal it certainly would have been accepted, or could any inferior animal breed a bull of this description? Let England produce a better bull of any breed than old Cotmore, or Major, of the present day; then I will be convinced that Herefords can be beaten.

I might trace the origin of the Durhams from the ancients, without any proof that it was that breed only deserved from it the ascendancy. I might pursue their advancement, and find them supported by the hands of wealthy, popular men, who nursed them with the most tender care, who spared no expense in effecting their improvement, and gave them the advantage of their art, skill, and study. In the mean time, a better breed may spring up, go through a less flattering process, and come out triumphantly; and I think all will allow that Durhams have had the decided advantage over Herefords in this respect.

I am sorry my remarks do not read well to Mr. H. after reading a standard work. I should like him to explain to me, the true derivation of that standard, and establish its firm foundation. My idea is that the practical man that makes the improvement, is the truest standard. A man may be a proficient in disease, and effect many miraculous cures, which I have no doubt Mr. Youatt has done, and is as highly respected as any man in England; but we are all liable to mistake, and are all open to correction. I am sorry my efforts are called forth against him. Whatever the Herefords may have been, they are now all they are represented to be—beautiful, noble animals. And I think other breeders will find they have something to contend against, to maintain the top standing. And as our worthy and esteemed friend, A. B. Allen, Esq., says, that good and gentlemanly judgment is showing itself in Ohio, that is all I ask to judge, and will cheerfully abide by the decision. True judgment, and a right spirit in agriculture, is all that America requires to make her what she must be, the head of all nations. It was that only, that kept England up, and raised her to what she is.

I cannot agree with Mr. H. when he tries to deter men from importing. My idea is that we should get the best animals that can be obtained, and of every breed that are likely to render service, leaving prejudice entirely out of

the question; and as many of them as the purse will allow. A good start is half the battle, and now is the time to make that start; those who wish to obtain glory and honor, in warfare, must not come to the field when the battle is won, but must share some part of the burthen. Money cannot pay a man for the care, anxiety, and risk he is exposed to, in importing stock. It is a task that I shall be glad to see others undertake, as I have done my share of the duty. I must now do justice to those we have, which is much the pleasantest part; there is no art, no science, no study so pleasing, so substantially gratifying to the mind of man, as to fully develop the good points of animals, by his own superior skill and management. It may be made the theme of usefulness. My opinion of securing good stock with economy in view is this; the farmer should procure two heifers and a bull of the very best order of that breed his taste directed, and let no price stop him, if the purse will sanction it; what says Shakspeare, "that the purse is trash," so say I, compared with good animals; they were the wealth of the first people; why not continue that of the present.

With any ordinary luck, the progeny of two females will soon extend, while the male improves the inferior, and adds value to the whole; this consideration will sustain high prices, and pure animals cannot be imported without paying high for them.

I am further of opinion, that pure breeders for sires, that can be depended upon, should be upheld in high prices, so as to enable them to keep their stock without a stain, as I think the most important part in breeding lies here; the progeny always degenerates if the sire has the slightest cross; it is not so with the dam; the stock will improve if the sire is well selected.

Mr. H. talks of showing spirit in selecting a breed of our own. I should like to hear his suggestions in commencing the breed, without having the best animals to resort to; even their crossing with a bad breed will take a full century to make any thing out of it, if founded on the best judgment. I will allow there are a limited supply of the best Durhams, but not a tenth part there should be.

No person can go to England, and fetch the best animals unless he is favored in freight, for less than five hundred dollars each.

We have sold one sheep to Mr. Clift, and let him another for the season; and from what I saw of his flock, they were the right sort of ewes to put to them. There is much credit due to Mr. C. for the enterprise he has shown, and much good taste displayed in his selection of ewes. I have no hesitation in saying, that the produce of these sheep will afford him an excellent flock, and one worthy of notice. The sheep he hired, was the one the portrait in the last No. was taken from. We have also sold two rams to Mr. Dunn, whose flock I have previously spoken of.

Mr. E. C. Delavan, of Ballston Centre, purchased a ram and some ewes. Mr. McIntyre, of Albany, a ram and some ewes. Mr. Watkins, of Georgia, some rams and a ewe. Mr. Clark, of Otsego, a ram; and others that I shall name in your next. I do this, as the names of our purchasers may be referred to; it is customary for men to say that their breed is descended from a good flock; the Cultivator will show if it is correct. I am well aware that these sheep will be valued and appreciated when better known; they possess an excellent constitution, produce a heavy fleece and carcass, easy feeders, a good quality of mutton, and not extravagant consumers; their paunch is small and quickly filled, they are quietly disposed, and kept in pastures with a very slight fence.

I see our friend Mr. A. B. Allen, Esq. says that Ohio is the home of the lordly Short Horns. I hail their prominent name, and as ours are principally of the feminine gender, will say York state is the home of the ladylike Herefords. As ladies are considered the first race of animals, I hope the Herefords will maintain it.

I am, dear sirs, yours sincerely,
WM. H. SOTHAM.

Perch-Lake Farm, Jefferson Co., Nov. 25, 1840.

N. B. I am pleased we have two breeds that can contend against each other; it will have a tendency to keep pure breeders to their duty; and I hope will rouse them to feel worthy of their names.

Rohans and Mercers.

Messrs. Gaylord & Tucker—I planted one half peck of Rohans in four rows, three rods in length, cut in single eye cuttings, by the side of the Mercer potato. The product of the Rohans was eight bushels three pecks, weighing 523 lbs. The Mercers produced one bushel to a row, on each side of the Rohans, and the Rohans wanted but one peck in four rows of being two and a half bushals to a row, while the Mercers had as much seed in one row as the Rohans had in the four; so that I am satisfied that they are the best potato to yield of any we have seen. The ground that they grew on has been planted six years in succession to potatoes, and no manure the present season.

C. M. L. A.

Macedon, Wayne County, 1840.

CURE FOR HOOF AIL.

Messrs. Editors—Perceiving in your last number, an inquiry respecting a remedy for the hoof ail in cattle, I am happy to have it in my power to communicate one which never fails of effecting a cure in two or three days. Blue vitriol finely pulverized, and applied to the diseased part of the hoof, once a day for two or three days, is all that is necessary. In the case of a cow of mine, one application was sufficient, and I presume would generally answer the purpose. The disease here is called by some of our farmers, "*foul*s," and by others, *hoof ail*. If the case alluded to by your correspondent, is the same disease, you can depend on my remedy.

Yours, &c. P. E. HUBBARD.

Middletown, (Conn.) Nov. 7, 1840.

BALDWIN'S CORN CRUSHER.

Messrs. Gaylord & Tucker—Having noticed in the last number of your excellent agricultural journal, an inquiry relative to the corn and cob crusher, we have thought proper to enclose to you two numbers of the American Farmer containing several letters from respectable farmers who have tested Baldwin's crusher; as also the benefit of feeding stock on this description of food. We take the liberty of informing you, that the article is manufactured by us, and will be furnished at $65. Several machines for crushing corn and cobs, have passed under our notice, all of which in our opinion, fall far short of Baldwin's. We have made and sold a number of them the last five years which have given entire satisfaction to all who have used them. They are capable of grinding (by one horse power,) 15 or 20 bushels of corn and cobs per hour, and can be regulated by a pinch screw to grind coarse and fine at pleasure. If you think these certificates, and our remarks, worthy of notice, you will please give them a place in the next number of the Cultivator. Respectfully yours,

ROBERT SINCLAIR, Jr.
Manufacturer and Seedsman.

Baltimore, Oct. 20, 1840.

The above crusher occupies a space of 4 by 2 feet, and is about 4½ feet high. The first impression on the cob is made by two fluted cylinders, placed horizontally and operate similar to the nuts of an apple mill grinder; these are intended merely to crush the cob; after this process it passes immediately through two finer fluted or ratched cylinders, and a cast iron concave, which last process leaves the article ground on an average as fine as a common early garden pea, the coarsest being as fine as a grain of flint corn, and the finest ground entirely into meal. S. & Co.

Chinese Tree Corn and Rohan Potatoes.

Messrs. Gaylord & Tucker—There having been some diversity of opinion, and generally unfavorable reports concerning the above variety of corn, I will briefly state the result of my trial of it. A year ago last winter, I procured from Thorburn's, New-York, one ear; of which I planted nine-tenths, having given away the residue; believing that different kinds of corn have been sold under this name, I will state that mine was a very handsome ear, about ten inches in length—10 rows, grain very closely set, long, and wedge form, well filled out to the end of the cob—some of the grain slightly indented. Planted it the 8th day of May, yielded over 900 ears; being more than a thousand fold, from the seed planted; and all, except less than a peck of ears, perfectly sound and fit for seed. The present year, I planted of this kind, about one acre in the same field, with other varieties; not having gathered it, I cannot state the amount of product; but it is judged it will yield one-fourth, if not one-third, more than the rest of the field, the ground being equal, and *all* sound; when ground it made meal handsomer and better flavored than other corn. As to the Rohan potatoes, my trials this year and last, show that *with us*, it is neither as good to eat nor as productive as the *Merino*. My neighbor, Peter E. Guman, Esq. tells me the same in regard to yield.

HENRY VAN KLEECK.

Cuddebackville, Orange Co., N. Y. Oct. 1840.

☞ Mr. Van Kleeck's remarks on the use of Ashes and Lime, for which he has our thanks, will appear next month.

"CURL" IN POTATOES.

In the September number of this paper I noticed, in a communication of S. P. Rhoades, Esq. my letter to him on the subject of disease in potatoes, called "the curl;" wherein I expressed an opinion that it "was attributable to the age of the variety." Another years experience has convinced me that I was in error. For, on examining all the different varieties, and among them was the *Long Keeps*, I could not discover any traces of the disease.

This leaves us just as much in the dark as ever, and I very much doubt whether the cause can be accounted for by any one. If, however, this should meet the eye of any person possessing the information and thinks he knows of a remedy, I would thank him to publish it in the Cultivator, for the benefit of the agriculturists. There is something very mysterious, to say the least of it, and requires investigation.

CALEB N. BEMENT.

Three Hills Farm, Nov. 1st, 1840

WILD CHERRY AS A STOCK.

Messrs. Editors—For the information of your correspondent, Mr. Dille, in reply to his inquiry in the last number of the Cultivator, I would state that in June last I called at the nursery of Mr. Floy, Harlem, New-York, where for the first time I saw the wild cherry, (*Prunus Virginiana,*) used as a stock for budding. He had two or three rows of them budded with plums last year, (1839,) I believe by way of experiment, and with what I would call tolerable success, half or two-thirds of them having taken; they were doing well, having made shoots averaging two feet long, (then June,) of the most luxuriant and thrifty appearance. I am not aware whether he has tried the peach or apricot.

For any further information I would refer your correspondent to Mr. Floy, who I have no doubt will cheerfully impart it. A READER.

Useful Recipes.

To Cure Scratches in Horses.

Wash the feet, or parts affected, with soap suds, wipe them clean and dry, and then apply white lead ground in oil, as thick as can be smoothly and evenly laid on. Exercise moderately, keep the animal dry, and in most cases, the first application will cure effectually. Should a second be necessary, wash off the old lead, and apply with a brush as at first. Six or eight days should intervene between the applications.

Staggers in Swine.

To cure this disease, De Grauchy recommends cutting a knot in the roof of the mouth till the animal bleeds liberally, and then rubbing it with powdered loam and salt, and giving it a little urine to drink. Pigs have openings on the inside of the fore legs below the knee, from which, when in health, a small discharge is kept up. A stoppage of these orifices, is supposed to be one cause of the staggers; and rubbing them open with a cob or other rough material, will usually effect a cure.

Sore Throat in Swine.

Turn animals so affected, into an open pasture where there is fresh feed, and ground to root. It is a disease resulting generally from confinement. Pounded charcoal mixed with food, where pasture cannot be had, or room for exercise, is one of the best preventives of disease in swine.

Horn Distemper.

A "Practical Farmer" in the Boston Cultivator, while he admits that the application of spirits of turpentine is good, asserts the use of hot brimstone is still better, for the cure of the horn ail. He turns one spoonful boiling hot into the cavity just between the horns.

Scours in Animals.

A writer in the Maine Farmer, recommends for this disease, finely pulverized bone. We have never seen it tried, but from the nature of the substances that constitute bone, such as lime to correct too great acidity, and gelatine to smooth the irritated surfaces, it is probable its employment would be useful.

Croup, or Hives in Children.

Cut onions into thin slices, between and over them, put brown sugar. When the sugar is dissolved, a teaspoonful of the syrup will produce almost immediate relief. The Editor of the Farmer's Advocate says he has known the onion used for this formidable disease, but prepared differently. "Wrap the onion in a wet cloth, or cabbage leaf, cover it with hot embers, and roast it slightly which may be done in a few minutes; the juice then pressed out and sweetened with sugar." Prepared in either way, it is pronounced effectual.

Scours in Calves.—When the calf is attacked, it should be put in a warm, dry stable, and not be permitted to suck more than half the quantity of milk it is wont to do; but should be put to the cow regularly three times a day. Make a tea of equal portions of white oak, beech, dogwood and slippery elm bark, and give small doses twice a day, and the calf will soon recover.—*Agriculturist.*

CONTENTS OF THIS NUMBER.

To our Subscribers—Prospectus of Vol. 8—Engravings for the Cultivator—Tenn. Ag. Society,	181
Making Pork,	182
Agriculture in Canada—Buel's Address—Tobacco—Census of Agriculture,	183
Work for the Month—Care of Stock—Preparation of Fire wood—Improvement of the Mind—Meetings of Ag. Societies,	184
Cotton—Cider,	185
Dr. Perrine and Mr. Smith—Winter Butter—Domestic Economy, &c.,	186
Dictionary of Agricultural Terms,	187
School District Library—Berkshires in Kentucky—Notes for the Month,	188
Merino Sheep—Sheep Husbandry in Tennessee,	189
Importance of a National Ag. Society—Curculio and Fruit Worms—Fair Crop,	190
Short Horns and Galloways—To make Home Pleasant,	191
Letters from the West, No. 3—To Western Emigrants, No. 2.—Use of Barilla in Virginia—Miner's Pump—Sausage Making,	192
Mr. Prentice's Short Horn Cow Appolonia—The Herefords and Short Horns,	193
Mr. Searle's Apiary—Tree Corn and Rohans,	194
Progress of the Silk Business—Hot Air Furnace—Rearing Calves—The Herefords,	195
Rohans and Mercers—Hoof-Ail—Baldwin's Corn Crusher—Tree Corn and Rohans—Curl in Potatoes—Grafting on the Wild Cherry—Useful Recipes,	196

Illustrations.

Fig. 91—Pig Stall,	182
Fig. 92—Merino Ewe,	189
Fig. 93—Short Horn and Galloway Bull,	191
Fig. 94—Mr. Prentice's Short Horn Cow Appolonia,	193

Communications.

SCIENCE OF AGRICULTURE.

EDITORS OF CULTIVATOR—In my last letter, I expressed the hope that when our stock of agricultural facts was more extensive, we should be enabled to raise agriculture to the rank and dignity of a *science*. Then and not till then, will our farming processes, divested of their present vagueness and empiricism, be conducted with all the precision and certainty of the laboratory. It must be confessed however, that there are many obstacles to our obtaining the requisite facts; these arise partly from the vast number and diversity of the facts to be collected and investigated, partly to the recondite nature of the laws of vegetable life and nutrition; but chiefly, as I remarked in my last letter, from the want of scientific knowledge among farmers, on whom alone we must depend for obtaining them. It is my intention in this letter, to point out some of the mistakes into which the farmer is liable to fall for want of this knowledge.

1. In making experiments they do not take into view the collateral circumstances. The looseness with which agricultural experiments have hitherto been made, and the confident manner with which they have been promulgated, has retarded rather than advanced the progress of agricultural science. For example, a farmer who wished to ascertain whether the application of plaster was beneficial to corn planted on clay land, adopted the following method of trying the experiment. He threw on an indefinite weight of plaster on four or five rows of corn, and left the remainder of the field unplastered; he hoed the field but once, yet with a view of giving his experiment a fair chance, he hoed the plastered rows nearly every week; being thus kept entirely free from weeds, and the soil being perfectly mellow, it received the full benefit of the sun and dew, and in the fall there was certainly more than double the corn on these five rows than on any other five on the whole field. To this farmer, the question whether plaster is beneficial to clay land or not, was conclusively settled in the affirmative. It is true that the next year he hoed his corn but once, and though he sowed plaster liberally over the whole field, he had a very poor crop. But his faith in the efficacy of plaster was unshaken, for he very logically argued, that if it had not been for the plaster, he should have had no corn at all. This may be considered an extreme case. But the records of agriculture will show, unless I am very much mistaken, many other cases where the neglect of collateral circumstances has been equally glaring. Other examples under this head, even from the pages of the "Cultivator," might be profitably adduced and commented on, but as I do not wish to cumber your columns to the exclusion of something better, I pass on to remark, that the second source of the errors into which farmers are liable to fall, for want of scientific knowledge is, "ignorance of the chemical composition of soils." I will confine my illustration of this topic to one example. Suppose two farmers pursue exactly the same modes of cultivation, on soils which they believe to be exactly similar, and as far as touch and vision are capable of distinguishing they are so; the one produces excellent *wheat* and the other excellent *straw*, but nothing else; the one is perfectly well satisfied with his system; the other contends that it is a bad one, and eagerly seeks for a better, but knows not how to find it. These farmers then meet and compare their modes of cultivation, and their soils; and finding that though both are exactly alike, their results are as opposite as the poles, they both conclude that luck is the basis of farming, and that there is no rule or principle about it. But chemical analysis reveals to us the source of this discrepancy. The farm which produced the wheat contains lime; the one which produced straw, contains not a vestige of calcareous matter. Now I am convinced from both observation and the nature of things, that this is a fair example of a numerous class of cases. How often do we find farms where particular grains and roots will not thrive, and the reason is, that some element is wanting in the soil. Now, if farmers were acquainted with analysis, they could, by comparing neighboring soils where these do thrive with their own, detect the deficient element, and artificially supply it, and by so doing add to their own profit and the wealth of the nation. It is very hard to convince a farmer that he does not know the nature of a soil on a bare inspection of it; but nothing can be more fallacious than this idea: a per centage of lime so small that it cannot possibly be appreciated by the senses, is yet capable of acting with great energy and efficiency, in promoting the growth and fructification of plants. To show how great is the aggregate amount of lime in a soil, though indicated on analysis by a very minute per centage, I will quote from Dr. Jackson's R. I. Report, p. 218. "Those who have never made any calculations as to the amount of calcareous matter contained in an acre of soil, will be surprised to learn, that the apparently insignificant proportion of one per cent, amounts in a soil whose specific gravity is 1.6 to 1 lb. in the cubic foot, and 43,560 lbs. to the acre or 21.78 tons, and if we allow the depth of tillage to be only 6 inches, we shall have no less than 10 tons 890 lbs.; an amount of calcareous matter that would be considered enormous if we were required to introduce it into the soil at one operation."

The 3rd and last source of error which I shall speak of in this paper, "is ignorance of the mutual combinations and decompositions which take place among the different ingredients of soils." Some farmers have actually denied the efficacy of animal manures, and have asserted that their frequent use would make the land barren. In their experience this was literally true, and chemistry explains why it does so. Experience shows us that all the *soluble* salts of iron are poisonous to vegetation, all the *insoluble* oxides of iron are harmless. Some lands which contain a very large per centage of oxide of iron, are remarkable for their fertility; these *are* injured, and in fact ruined by the application of manure. Animal manures all contain more or less of sulphur; according to the irreversible laws of combination, sulphuretted hydrogen is one of the products formed by their decomposition; this unites with the oxide of iron in the soil, and by a play of double affinities, water and sulphuret are formed from the union; this sulsulphuret of iron by continued exposure to the air absorbs oxygen from it, and hence results another chemical transformation, and sulphate of iron is produced; this is a very *soluble* salt, most pernicious to vegetation, and absolute barrenness must result from its presence, unless the aid of chemistry is invoked to induce new and less hurtful combinations.

A very instructive example of the errors into which uninstructed farmers are liable to fall, by adopting the practices of those whose soils differ from their own, is given by Dr. Jackson, in his R. I. Report p. 186. "Let us suppose one of our farmers had read of one of the methods of improvement, employed extensively in Belgium, where pyritiferous lignite," (this is composed of iron, copper, sulphur, and partially carbonised wood) "is spread over the surface of the soil, for the purpose of generating sulphate of iron, a substance that reacts continually on a calcareous soil, liberating carbonic acid gas and forming sulphate of lime, or gypsum, both of which serve to render vegetation luxuriant, the carbonic acid gas being absorbed by the foliage, while the gypsum stimulates the plant to its rapid absorption and assimilation. The fact being published without any chemical explanation, and the resulting crops being stated, it is perfectly natural to suppose that an enterprising New-England farmer would be disposed to try such a promising experiment on his soil, if he could obtain the substance mentioned. Now it is absolutely certain, that the very substance that confers fertility on the calcareous soils of Belgium, would render any New-England soil utterly barren, so as to be irreclaimable without chemical skill and large expenditure."

From what has been said it is clear that if farmers generally were familiar with chemical analysis, many mistakes would be avoided, the processes for fertilizing the soil and adapting it to the plants most desirable, would be rendered more direct, and consequently less expensive, and the habit of order and method which is required for the practice of it, would insensibly transfer itself to all the operations of the farm. The art of analysis is far from being as difficult as it has been represented; let any intelligent farmer commence and go through the form laid down for the analysis of a soil; if he is not successful the first time let him repeat it till he is so, which he probable will be on the fourth or fifth trial, and he will never regret the time that he has spent. Chaptal's mode of analysis has been published in the "Cultivator," and another mode has also been inserted in your "Dictionary of Terms, &c." art. Analysis. Dr. Jackson's method differs from both of these, and in order that those who wish to practice analysis, may have a variety of modes to choose from, it is desirable that this should have a place in your columns.* N. N. D.

Stockport, 10 mo. 16th, 1840.

THE BERKSHIRES.

MESSRS. GAYLORD & TUCKER—I must say a word to you on the subject of Berkshires, having recently very considerably improved on the choice Shaker stock you took so much interest in looking over with me last summer, before they migrated to my piggery. This has been done by an importation from England, of some of the finest animals ever brought into this country, which I think when properly combined with the choicest selection from my former stock, will place it almost beyond future improvement.

Sultan, the lord paramount of the harem, is a boar of immense size; weighing in ordinary flesh, 550 lbs., and as fine and perfect in form and proportion as possible, possessing great length, a broad crowning back, splendid hams, great activity and vigor, good constitution, perfect docility, and a smaller feeder for his size, than I almost ever knew. His color is as perfect as can be delineated; having four white feet, a slight strip on his face, flecked a little on his ham, with the silver tipped tail, while all the rest of his royal person has the genuine rich purple black, so peculiar to these peers among pigs. His stock is to say the least, second to no other I have ever seen, for pigs of his jet, came first of last April, have gained one pound and three-quarters per day, from the time they were dropped; and are perfect models of symmetry. Four sows equally promising of their age, make up the *latest* importation. Sultana, his eldest bride, though not quite so long, is of more portly dimensions than her liege lord, and probably less than a score weight would poise them. And the beauty of all this is, that this enormous weight has been put on by nothing but grass through the summer and early part of the autumn. The increasing demand for the pure blood of this breed has induced me to assume the trouble and expense of procuring this additional stock.

Prince Regent is still but a youth, though a promising one; and his stock so far as I have heard from it, has taken the premium at all the fairs where they have been exhibited. For excessive fineness of points, I have never seen any thing superior to them.

I am glad to notice the spirit of improvement in stock generally, and swine especially, making more rapid advances throughout the country, and particularly at the west, than has ever been done before; and my deliberate opinion is, that the country will save enough from this source alone, within the next ten years, to achieve all the internal improvements projected up to this time. Truly yours, A. B. ALLEN.

Buffalo, Nov. 23, 1840.

AGRICULTURIST'S FURNACE.—[Fig. 96.]

A good, cheap and durable boiler has long been sought for by the farmer. Potash kettles, cauldrons and boxes with sheet iron bottoms set in brick, have been used, as well as steam boilers of various descriptions, but they all take up considerable room, are clumsy and burdensome.

For the last seven years, I have tried all the above named articles, and have laid them by and substituted one of "Mott's Patent Agriculturist's Furnace and Cauldron," which I procured of G. G. Heermance, No. 5 Green-street, Albany, at a cost of $21 [See advertisement on last page of this sheet.]

The following is extracted from his advertisement:

"This article," says the inventor, "was constructed in consequence of a suggestion from the American Institute; that a portable and low priced furnace was much wanted by farmers, for heating their kettles for boiling or steaming food, preparing maple sugar, and many other purposes."

The above cut represents the furnace with a cauldron in place, with a rim on the top of the furnace to bring the heat nearer the boiler.

"The fire-place is 2 feet 2 inches long, 14 inches wide and 9 inches deep."

"One furnace will suit the different sizes of cauldrons, varying from one to four barrels, by having rims for each sized kettle; the lower edge of the rim to fit the furnace; the upper part to conform to the shape and size of the cauldron. When used in a building, the rims may be carried to the upper edge of the boiler, and the smoke conducted off by a pipe, as shown by the dotted lines in Fig. 2."

It will readily be perceived that it has many advantages over those set in brick. It takes up but little room, is light, and may be placed on the floor, and requires no foundation to support it. Besides being portable, it may be removed from place to place, as occasion or convenience may require; two men are sufficient to remove it. It can be made to boil full of vegetables in 30 minutes, and the second filling in 20 minutes. In this I was most happily disappointed, for I had always supposed that brick retained the heat better than iron, and after being once heated, would require less fuel to keep it boiling. Another very important consideration, and will go far to recommend it is, that it requires much less wood than one of the same size and form set in brick, or even the box, with a sheet iron bottom, so highly recommended in some of the former volumes of the Cultivator. Although wood may be plenty, it takes time and labor to procure it.

Steam boilers may answer in very large establishments, but I have found them very inconvenient, as every farmer is not engineer enough to manage it, and the consequence was an occasional explosion or collapse, and in either case an expense and considerable trouble was incurred.

Some five or six years ago, I tried a copper boiler—a cylinder within a cylinder, the furnace in the centre, surrounded by water, very similar and on the same principle as the one figured in the 13th number of the current volume of the New-England Farmer, as "Doct. Warren's *Patent* cylinder vegetable Steamer," but I found it very expensive to keep it in order and abandoned it.

The best plan for steaming roots, it appears to me, is the "Rail-road Steamer," invented and recommended

* Want of room compels us to defer till another time, the publication of Dr. Jackson's method of analysing soils.

by Solon Robinson in the June No. of the present volume of this paper. One great advantage in his steamer is, the saving of all the hard and unpleasant labor of emptying the contents after boiling; for by pulling out a small pin, the bottom falls and the contents drop into a vat underneath; and by replacing the bottom and pin it is ready to be filled again.

There is some difference of opinion as regards the utility of boiling or steaming food for stock. I am in favor of boiling, as it is much more simple, and there is no danger of explosion or collapse.

It is generally conceded, I believe, that boiled or steamed potatoes are preferable for fattening hogs, to raw; but I knew one farmer who formerly contended that raw potatoes were better than cooked ones, but on visiting him, not long since I found him boiling them, and he thought himself well paid for the expense and trouble.

By the bye, I have tried the sugar beet boiled for hogs, and notwithstanding their extreme fondness for them, although I mixed one bushel of ship stuff to four bushels of beets, I found them worthless. They would fill themselves nearly to bursting, and in a short time call for more. The mixture appeared sweet, but seemed to have no substance. After feeding my hogs with about 100 bushels of the sugar beet, I could not perceive any gain either in flesh or size.

This convinces me of the truth of Doct. Guthrie's statement in the July No. of this volume.

I have fed my store hogs with them raw as well as ruta bagas, and found them beneficial; but after all, they will not cause them to grow like corn, peas or oats.

Yours, C. N. BEMENT.

THE SUGAR BEET.

MESSRS. GAYLORD & TUCKER—I herewith send you the seeds of two varieties of grass and one of grain, that are found in abundance on our prairies, for a description of which, I refer to labels accompanying each.

On page 113 of the current volume of the Cultivator, I was much surprised at the statement of the result of an experiment in feeding the sugar beet; and not a little disappointed at finding no attempt on your part to account for the unfavorable result, especially as the culture of that root has been uniformly recommended so far as I have observed, both in the Cultivator and Genesee Farmer, as food for domestic animals. In addition to this general recommendation, I find the favorable report of several who have fed them both to cattle and hogs. I have raised a few acres of this root the present season, and am so well pleased with the produce of the crop and the ease and facility with which it is cultivated upon our prairies, that I am not willing to abandon the sugar beet as a food for cattle and hogs, until I am forced to by the result of repeated and satisfactory experiments. I frankly admit that I have as yet met with no result that experimentally and *undoubtedly* establishes their value as food for these animals, and on the other hand, I am constrained to say that the experiment of your intelligent correspondent of Sackett's Harbor above referred to, is by no means satisfactory to me. If we had no evidence either experimental or scientific in favor of the sugar beet as an article of food for our domestic animals, the experiment above referred to might be entitled to some consideration against them, particularly as it respects fattening hogs, but uniform experience, hitherto so far as I am advised, testifies in their favor, and in addition to this, upon scientific principles, we should pronounce them of great value. Sir H. Davy in his Agricultural Chemistry, (see 2d American edition, page 7,) says: "The compounds in vegetables really nutritious as the food of animals are very few; farina, or the pure matter of starch, gluten, vegetable jelly and extracts. Of these, the most nutritive is gluten, which approaches nearest in its nature to animal matter, and which is the substance that gives to wheat its superiority over other grains. The next in order as to nourishing power, is *sugar*; then farina, (or starch) and last of all, gelatinous and extractive matter. Simple tests of the relative nourishing powers of the different species of food, are the relative quantities that they afford by analysis." Now if these principles be correct, we are taught that any substance which contains a large amount of sugar, is highly nutritious in its nature, and consequently valuable as food for animals, unless it contains some other substance, which counteracts the nutritious properties of the sugar, or the substance itself is of such a nature, that it may not be digested. If the former be the case with the sugar beet, it has yet to be discovered; and I presume it will not be insisted that the difficulty is of the latter description. I am not prepared to approve altogether of the manner in which your correspondent accounts for his disappointment in the result of his experiment. If I understand him correctly, the reason why the sugar beet will not give the animal which feeds upon it flesh, is because it contains no starch, but abounds in sugar. Now it appears from the authority I have quoted, that sugar is in fact more nutritious than starch, although the difference may not be very great. In fact, sugar and starch are so very much alike in their composition, that they may be converted one into the other. On this subject, I would again refer to the same author, and also to the 5th volume of the Cultivator, pages 12, 45.

Again, your correspondent informs us, that the sugar beet did promote a great flow of rich milk in cows. This proves that the root is perfectly adapted to the digestive organs of the animal which it seems to me is the only serious question that could be raised as to their being valuable food for cattle. I am willing to admit that some kinds of fodder will create a greater flow of milk in cows than others, containing the same or even a greater amount of nutritious matter, but this by no means proves that if the cow were dry, the same matter would not go to sustain the life or increase the flesh of the animal. To be changed into milk, the substance of the food must first be converted into blood, whence it is secreted by the proper organs. Now can it be said that if the organs were dominant, this same substance instead of going to sustain the life of the animal or increase its flesh, would be conducted into the intestines and voided or escaped through the pores of the skin. I have already occupied more space upon this subject than I had intended, but it seems to me one of great importance to all who devote any attention to root culture; and I hope that some of your numerous correspondents, possessing the necessary facilities, will institute some accurate experiments to test the value of these and other roots, both for making beef and pork. Let several healthy cattle or lots of cattle of the same age and breed, and of the same aptitude to take on flesh, be selected. Let all be kept in a warm, clean stable, with a plenty of litter, and given as much good hay and pure water, as they will take. Then feed one lot with as much sugar beet as it will eat and no more; another with mangel wurtzel, another with ruta baga, another with carrots, and another with potatoes, all in the same manner; and another lot might be fed with a rotation of all of the above roots. Let all be carefully weighed when they are put up, and at several intermediate times if convenient. Observe particularly the health of the animals all of the time, and never forget the salt. And let an accurate account be kept of the quantity of each kind of food consumed. The result of several, or even one such experiment, might be considered satisfactory. Several experiments might be made with swine, and I know of none more capable of making such an experiment upon the grunting tribe, than your able correspondent, Mr. Allen of Buffalo, or him of the Three Hill's Farm.

There are several other subjects of which I had intended to have spoken, and more particularly concerning prairie farming, and more practical than the foregoing; but I fear you have had enough of me already. I cannot, however, close without expressing the great satisfaction I feel in the particular interest you manifest in the Cultivator, in the improvement of farm stock.

J. D. CATON.

Plainfield, Will Co. Illinois, Oct. 1, 1840.

TRANSMUTATION OF WHEAT TO CHESS.

MESSRS. EDITORS—Perhaps the subject of the transmutation of wheat to chess has already been sufficiently discussed, and I presume no probability exists of its ever being finally settled to the satisfaction of all, either way; but the very positive way in which the subject was treated in the remarks which followed the communication of Mr. Hulett in the August No. have induced me to offer my testimony to facts similar to those stated by him. In the first place permit me to make a few observations in reply to the afore mentioned remarks. I would observe that it is not a mark of wisdom to deny every thing which we do not comprehend or cannot understand. Facts exist of which we are fully convinced by our senses, which to account for, must from the nature of the circumstances, ever remain the subject of conjecture. Yet to brand such facts, because we had not seen and did not understand them, with the epithets of "absurdities" and "dreams," would only be an evidence of our own ignorance. Suppose we were to tell a person who had never seen or heard of the process of grafting or inoculation of fruit trees, that the same trees had been known to bear peaches and plums. Or again, suppose we were to tell a person, ignorant of such facts, that the caterpillar changed into a butterfly, or what he might think still more strange, that the insects which abound in stagnant water in common language called *wiglers*, changed to musquetoes! (*a*) Why he would answer, "impossible;" that "it was in direct contradiction to the whole known order of nature;" that "not a single instance ever has been given or ever can be given of the conversion of one species of plant to another, or one species of animal to another," "the mere statement of such an absurdity, is a sufficient refutation." But such are known and indisputable facts; and equally so to the practical and observing farmer, is the *fact* that wheat *will* degenerate into chess, the assertion of learned theorists to the contrary notwithstanding. It is immaterial whether the species of plant which common farmers innocently term wheat, be called "*Triticum*," and that chess is termed another called "*Bromus*." Facts are stubborn things, before which all theories, however logically sustained and defined, must bend. That science, and the study of agricultural works and periodicals are a great aid to the farmer, there is no question. Yet there are facts, and some important ones, which are almost daily developed to the practical and observing farmer, which might in vain be sought for in the pages of science, or the works of the theorist. It is not my intention, nor do I profess to be capable to explain the philosophy of wheat *turning* to chess, or the process of the same. This I leave to abler hands, who have more leisure to study into the works of nature in the vegetable world. It is sufficient for me to know by the evidence of my eyes in seeing, (aside from the credible testimony of others, which I am bound to believe,) and the evidence of my fingers in feeling and handling, that chess and wheat have grown together on the same stalk, connected in the same head. (*b*.) The one which I saw, was not a kernel of chess lodged in the beards of a wheat head, nor connected by the one entwining around the other. It was a bald head of wheat, the lower part being filled with shrivelled kernels of wheat, while the upper part separated into two parts of chess braids or rows of perfect chess kernels. This I can substantiate by the testimony of several individuals who saw and *handled* the same; and whose character for truth and veracity stands as fair as that of any men in Michigan. That a belief in these facts has a pernicious tendency, I think with Mr. Hulett, is a mistake. "Observation and experience, reason, and fact," have taught the observing farmer the causes which *tend* to produce these effects, and he is led to consider them such ills as he *can* in *some measure control*. (*c*.) These causes, and the means of preventing them, are some of them pointed out by Mr. Hulett. There are others which I intended to point out, but this communication has already swelled beyond the limits which I intended, and I must omit them for the present. With a wish that truth may prevail, I subscribe myself, yours truly,

J. F. CHUBB.

Byron, Kent Co. Mich. Aug. 1840.

NOTES BY THE EDITORS—We give place to the foregoing, not because it contains any thing throwing new light on the contested point, but that the advocates of transmutation may have a fair hearing. We add a note or two in explanation.

a Mr. Chubb has been most singularly unfortunate in his selection of instances to illustrate his belief. We deny the possibility of transmutation, *not* because *we* have not witnessed the process, or the fact, but *because no one else has*. The cases he adduces are in perfect conformity with known and invariable laws; every step of the process of change is open to every observer, and has been traced by hundreds. Transmutation, on the contrary, is a deviation from every known law; it is an anomaly "solitary and alone," no two of its advocates agree on the cause, and no one has ever witnessed the process; the folly, therefore, of bringing forward these examples as illustrations, is scarcely less apparent, than the absurdity of the theory they are designed to support.

b. The case here mentioned by Mr. Chubb, has some peculiarities, but none that entitle it to consideration as a new or forcible argument in favor of transmutation. Into what experiments did Mr. Chubb, and those who "saw and handled" this ear, enter, to determine its character? Did they plant any of the kernels of shrivelled wheat, or any of the "perfect chess kernels," to ascertain their product? Were any of these seeds submitted to the inspection of men qualified by their knowledge of plants, their varieties, and different condition of their seeds or kernels, to decide accurately upon their nature and condition? We have not the least doubt that Mr. Chubb and his friends fully believed they saw what he has asserted, but we must be permitted to retain the opinion, that in cases so liable to mistake, and in which so many have been mistaken, and in which, so far as his letter goes, no precaution or effort to prevent mistakes or correct erroneous impressions, was made, such observation could not be infallible, or worthy of implicit credence. "Facts *are* stubborn things," and it is these that are required to settle the question of transmutation; and we must be allowed to say the facts required to render the doctrine of transmutation probable, have yet to be produced.

c. If Mr. Hulett, Mr. Chubb, or any of the believers in transmutation have discovered the causes that produce chess, or even have that tendency, independent of that grown from seeds of that plant deposited in the earth, they would confer a favor on their farming brethren by making them known, that they may be avoided. We believe, (and facts shown in cases where farmers have eradicated this weed from their fields, justify the belief,) that no one has ever grown a kernel of chess, or ever will, where no chess seeds are in the earth; and that consequently the pleadings for slovenly farming used by the advocates of transmutation, should be discarded at once as most pernicious.

TO CORRESPONDENTS

The communication of S. HOWARD came too late for the December number. It will appear next month. Several plans of dwelling-houses, and a plan of a meeting-house by our friend JOHN CAIN, are waiting for insertion. We should have been glad to have given AMICUS a place before this. We will try to make room for him soon. The communications of A SUBSCRIBER, D. K. MINOR, T. G. LOFTON, H. VAN KLEECK, H. M. GAYLORD, B. CHASE, and some others now on hand, will appear in the January number. Several articles on the barberry and chess questions must give place to matters of more general interest, and we cannot promise when they shall appear.

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Ellicottsville, J. Day, p m
Ellington, J. J. Strong, p m
Elmira, H. Luce,
Erwin, J. Cooper, p m
Erwin Centre, C. Hoffman, p m
Esopus, S. Elmore, p m
Euclid, N. Soule, p m
Evans, C. F. Morgan, p m
Exeter, C. Jones, p m
Factoryville, A. Yates, p m
Fairfield, A. H. Buel, p m
Fairport, S. Conckling, p m
Fall Creek, S. Nash,
Fallsburgh, J. H. Foster, p m
Farmer, J. C. Knight, p m
Fayetteville. H. Edwards, p m
Fire Place, S. Homer, p m
Fishkill, J. Givens, p m
Fishkill Landing, J. Cromwell, p m
Five Corners, A. Palmer,
Flat Bush, M Schoonmaker, p m
Florence, J. S. T. Stranahan, p m
Flushing, J. Bloodgood, p m
Fonda, J. M. Tubbs, a p m
Fort Ann, S. B. Sargent, p
P. C. Moore,
Fort Covington, T. Rogers, p m
Fort Edward, J. F. Gandal, p m
Fort Hamilton, T. G. Bergen,
Fort Hunter, P. Enders, p m
Fort Miller, A. C. Tefft,
Fort Plain, C. L. Simms, p m
Fowlersville, W. Fraser, p m
Frankfort, W. W. Dygert, p m
Franklin, A. Douglass, p m
Franklinville, D. McCluer, p m
Fredonia, J. Lamson,
H. C. Frisbee,
Freedom, E. Howlet, p m
Freetown Corners, G. Kelsay, p m
Fulton. L. Falley, p m
Fultonville, J. R. Simms,
Gaines, D. Gilbert, p m
Gainesville, J. Towner,
Gales, S. F. Weller, p m
Galesville, A. B. Sherman, p m
Gallatinville, A. F. Miller, p m
Galway, E. O. Smith, p m
Gates, J. Sturges, p m
Gayhead. B. Spring, p m
Geddes, E. W. Curtis, p m
Geneseo, D. H. Bissell, p m
Geneva, G. J. Grosvenor, p m
Gerry, L. Johnson, p m
Gilbertsville. J. Bryant, p m
Glasco, H. B. Martin, p m
Glen Cove, W. Harrold, Jr. p m
Glenn's Falls, J. H. Haight
Gorham, D. Halsted, p m
Goshen, H. W. Elliott, p m
Gouverneur, E. Dodge, p m
Grahamsville, L. C. Lawrence,
Greenport, J. Clark, p m
Greenville, J. Pierce, p m
Greenwich, M. H. White, p m
Greenwood, L. Davis, p m
Groveland Centre, C. H. Carroll, p m
Guilford, E. Dickinson, p m
Hackensack, D J Anderson,
Hague, N. Garfield, Jr. p m
Half Moon, R Forbes, p m
Hallsville, R. Hall, p m
Hamburgh, C. Pringle, p m
Hamden, J. Bostwick,
Hamilton, C. Porter, p m
Hammond, O. E. Wightman,
Hammond's Mills, S. Hammond, p m
Hamptonburgh, J. Strong, p m
Hannibal, T. Skelton, p m
Hanover, B. Tubbs, p m
Harlemville, E. Tracy, p m
Harmony, A. Carnell, p m
Harpersville, H. A. Olendorf, p m
Hart's Village, J. Haight, Jr.
Hartwick, L. Harrington, p m
Havana, H. W. Jackson, p m
Hempstead, S. C. Snedeker, p m
Henrietta, E. Kirby, p m
M. Roberts
Heuvelton, W. Thurston, p m
Hickory Corners, D. Pomeroy, p m
Hillsdale, R. Latting, p m
Hoffman's Gate, J. Hoffman, p m
Holland Patent. P. C. J. De Angelis, p m
Homer, E. Berry, p m
P. Barber,
R. Boies,
Honeoye Falls, H. Wheeler, p m
Hopewell, N. Lewis, p m
Hornellsville, J. R. Morris, p m
Hosick, J. P. Armstrong, p m
Houseville D. Goff, Jr. p m
Howard, C. Graves, p m
Howlet Hill. J. Case, p m
Hudson, G. Wescott, p m
Alexander Ross,
Hull's Mills, E. Hull, p m
Huntington, G. B. Oakley & Co.
Hunt's Hollow, S. Hunt, p m
Irondequoit. C. K. Hobbie, p m
Ithica, E. Mack, p m
Stone & Clark,
Jamestown, J. Kenyon,
Jamesville, J. W. Brewster, p m
Jericho, A. G. Carll, p m
Jerusalem South, S. S. Jones, p m
Johnson's Creek, L. Woodworth, p m
Johnstown, H. B. Matthews, p m
Jonesville, G. Kennedy,
Jordan, L. H. Mason, p m
Keesville, R. E. Keese,
Kinderhook, J. Bain, p m
Kingsboro, J. P. Harvey, p m
Kingsbury, L. B. Armstrong,
Kingston, B. M. Hasbrouck, p m
Knowlesville, J. Lawrence, p m
Kortright, M. Keeler, Jr. p m
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Lairdsville, G. B. Peabody, p m
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Lake Ridge, L. A. Morrell,
Lansingburgh, Alexander Walsh,
S. D. Smith, p m
Lansingville, N. Crocker, p m
Larned's Corners, E. F. Miller,
Lassellsville, W. Hutchinson, p m
Laurens, H. Hopkins,
Lawrenceville, L. Hurlburt, p m
Lawyersville, T. Lawyer, p m
Lebanon, C. C. Gray, p m
Ledyard, A. Avery, p m
Leeds, J. C. Dewey,
Leedsville, J. D. Hunt,
Leonardsville, D. Harden, p m
Le Roy, P. M. Smith, p m
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Lexington Heights, R. Johnson, p m
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Liberty, P. Buckley, p m
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Lindleystown, A. C. Morgan, p m
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Lithgow, P. Sutherland, p m
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Little Valley, C. S. Shepard, p m
Little York, W. Slawson, p m
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Livingston, J. Van Duzen, p m
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E. D. Shuler,
Logan, S. C. Smith, p m
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M. Still,
Lysander, G. A. Allen, p m
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Maine, N. B. Smith, p m
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Malden Bridge, L. Van Volkenburgh, p m
Malone, D. Brewster, p m
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Manhassett, J. Allen, p m
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Manlius, D. B. Bickford, p m
Mannsville, R. Pinney, p m
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Marengo, P. Crosby, p m
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Marshall, H. L. Hawley,
Martinsburgh, H. Stevens
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Mellenville, H. Best, p m
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Middleport, A. L. Baker, p m
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Milford Centre, J. Wescott, p m
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Mill Grove, D. McCormick, p m
Millport, E. Crandall, p m
Milo Centre, W. Holden, p m
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Mixville, P. Dill, p m
Modena, T. Seymour, p m
Mohawk, F. Bellinger, p m
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Montezuma, Dr. I. Doty,
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Moreland, J. Crawford, p m
Moresville, J. T. More, p m
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Navarino, E. Marks,
Nelson, J. Donaldson, p m
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New Berlin, S. Medbury, p m
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New Haven, S. G. Merriam, p m
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New London, T. J. Rudd, p m
New Paltz, W. H. Budd, p m
New Rochelle, S Bowne, p m
New Scotland, E. Raynsford, p m
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Alex. Smith, 388 Broadway,
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North Salem, S. Field,
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Norway, D. Dubois, p m
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Oaksville, A. Preston, p m
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Olean, E. M. Birge,
Onondaga, N. R. Teffs, p m
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Orlo Steele,
Otego, E. R. Brewer, p m
Otisco, Willis Gaylord,
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Owego, J. Fay, p m
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Paris, J. Scovill, p m
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Parishville, L Perkins, p m
Pavilion, W. M. Sprague, p m
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Peekskill, W. Royce, p m
Pekin, W. Hotchkiss, Jr.
Pendleton, S. P. Clark, p m
Penfield, J. B. Bryan, p m
Penn-Yan, A. H. Bennett, p m
Perrinton, A. Goodell, p m
Perry Centre, J. Lathrop, p m
Perrysville, S. Judd, p m
Persia, P. Welch,
Peru, N. Rice, p m
W. Keese,
Peruville, D. W. Woodbury,
Petersburgh, A. Estee,
Squire Waite,
Pillar Point, L. D. Briggs, p m
Pine's Bridge, M. Sutton, Jr.
Pitcher, H. Chandler, p m
Pittsford, A. Voorhees, p m
Pittstown, S. W. Thompson, p m
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S. Heaton,
Plattsburgh, H. K. Averill, p m
Pleasant Valley, C. Peters, p m
Pompey, H. Wheaton,
Pompey Centre, J. F. Osborn,
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Port Chester, G. W. Smith, p m
Port Jackson, M. Vanderburgh, p m
Port Jefferson, J. R. Davis, p m
Port Jervis, O. Hardenburgh, p m
Portland, J. R. Coney, p m
Potter, R. H. Williams, p m
Pottersville, J. F. Potter, p m
Pottsdam, H. Allen, p m
C. T. Buswell,
Poughquog, S. V. Rogers, p m
Poughkeepsie, J. Van Benthuysen, p m
G. M. Hatch,
Pound Ridge, W. L. Smith, p m
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Prattsville, F. A. Penn, p m
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Purvis, B. Phillips,
Putnam, G. Burnett, p m
Quaker, Hill, A. Akin, p m
Red Creek, Wm Hawley,
Red Hook, P. N. Bonesteel, p m
Red Rock, A. Ford, p m
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Rhinebeck, W. B. Platt, p m
Richfield, J. C. Munson, p m
Richford, C. S. Rich, p m
Richmond, J. Johnson, p m
Richville, J. C. Rich, p m
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Riverhead, G. Halsey, p m
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Rock City, A. S. Sweet, p m
Rockstream, A. Simmons, p m
Rome, J. Hathaway, p m
G. Huntington & Co.
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Royalton, S. McLean, p m
Royalton Centre, E. M. Clarke, p m
Rush, J. B. Crosby, p m
J. Stull,
Rushville, C. Loomis, p m
Russia, E. Varney, p m
Rutland, J. J. Tuttle, p m
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Salem Cross Roads, S. Hall, p m
Salina, E. Stone, p m
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Salisbury Mills, R. M. Van Allen, p m
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Sand Lake, R. J. Knowlton,
Sandy Hill, J. Wright, p m
Sangerfield, D. North, p m
Saratoga Springs, P. V. Wiggins,
Sardinia, C. Hastings, p m
Saugerties, W. F. Russel, p m
Schagticoke, J. C. Mather,
Schenectady, D. Tomlinson,
Schultzville, D. H. Shultz, p m
Schuylersville, O. Brisben, p m
Scipioville, A. Ward, p m
Scotchtown, W. Brown, p m
Scott, W. Alvord, p m
Scottsville, J. Carpenter, p m
Searsburgh, D. F. Sears, p m
Sempronius, A. Heald, p m
Seneca Falls, D. Crowell,
Sennett, C. C. Cady, p m
Sharon, R. V. S. Ramsey,
Shawangunk, J. N. Mitchell, p m
Sherburne, A. Holmes, p m
Short Track, J. Platt, p m
Shushan, A. C. Sanders,
Sidney Plains, E. Odell, p m
Silver Creek, W. Van Duzen, p m
Sing-Sing, G. Sherwood, p m
Skaneateles, C. J. Burnet, p m
Slate Hill, G. Conklin, p m
Slatersville, J. Heath, p m
Smithtown, J. Mills, p m
Smithville, N. S. Hine, p m
Smithville Flats, R. N. Messenger, p m
Smoky Hollow, W. J. Jordan,
Sodus, A. M. Winchester, p m
Solon, D. Copeland, p m
Somers, L. D. Clift,
Somerset, J. Mathews, p m
Southampton, B. H. Foster,
South Bainbridge, J. P. Chamberlin, p m
South Barre, D. Ketcham, p m
South Branch, R. T. Green, p m
South Byron, E. Cash, p m
South Cairo, R. Van Dyke,
South Danby, A. Bennett, p m
South East, E. Foster, p m
South Easton, T. D. Beadle, p m
South Edwards, J. C. Haile, p m
South Hartford, M. Inglesby,
South Kortright, J. McDonald, p m
South Middleton, H. S. Beakes, p m
Southold, S. S. Horton, p m
Southport, H. Jones, p m
South Royalton, W. W. Hunt, p m
South Salem, G. Hawley, p m
H. Mead,
South Trenton, H. Rhodes,
South Westerlo, B. Stanton,
South Windsor, J. S. Watrous, p m
Speedville, L. W. Kingman, p m
Spencerport, P. Cane, p m
Spencertown, E. Reed, a p m
Springville, E. Mack, p m
Spring-Water, A. Southworth, p m
Stafford, S. Marsh, p m
Stirling, N. Vilas, p m
Steuben, M. Brooks, p m
Stockbridge, H. S. Sumner, p m
Stockholm, D. Pettibone, p m
Stockport, J. Van Valkenburg
Stokes, J. N. Husted, p m
Stone Ridge, E. Loundsbury, p m
P. Van Vleck,
Stow's Square, C. Davenport, p m
Stuyvesant, W. Butler, p m
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Sweden, R. A. Gillett p m
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L. H. Redfield,
Tannersville, E. B. Gray, p m
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Tonawanda, J. S. Young, p m
Towner's, J. Towner, p m
Townsend, T. Farrar, p m
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Troy, J. Mc Conihe, p m
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Elias Gates,
L. D. Eddy,
Trumansburgh, J. McLallan, p m
Truxton, A. Babcock,
Turin, H. Rayan,
Tyre, J. Smith, p m
Ulsterville, S. Allen, p m
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Unadilla Forks, H. H. Babcock, p m
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Union Mills, J. Marsh, p m
Union Springs, J. Mosher, p m
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Upper Red-Hook, L. Cholwell, p m
Urbana, J. J. Poppino, p m
Utica, Wm. Bristol.
Valatie, J. Vanderpoel, p m
Vallonia Springs, L. Stowell, p m
Van Buren, H. R. Dow, p m
Van Buren Centre, J. Skinner, p m
Vandermark, A. Black, p m
Verbank, E. E Vail, p m
Vernon, J. W. Jenkins, p m
S. Case,
Verona, G. T. Peckham, p m
Versailles, A. H Barker, p m
Victor, W. C. Dryer, p m
Vienna, J. Parker,
Waddington, G. Redington, p m
Wadham's Mills, W. L. Wadham, p m
Walden, M. K. Hill, a p m
Wales, J. Wood, p m
Walton, A. N. Wheeler, p m
Walworth, B. Billings, p m
Wampsville, W. Spencer, p m
Warren, J. W. Tunnicliff, p m
S. Colman,
Warsaw, A. Hovey,
Washington, L. B. Sherman, p m
Washington Hollow, D. P. Emigh, p m
Waterford, E. M. Todd, p m
Waterloo, S. Clark, p m
Watertown, A. S. Green, p m
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Wawarsing, R. Hornbeck, p m
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West Burlington, Truman Moss,
West Camp, H. Dederick, p m
West Carlton, George Kirck, p m
West Charlton, F. McMartin, p m
West Chester, S. B. Bowne, p m
West Dryden, P. Gwinnip, p m
Westerlo, J. Green, p m
West Exeter, B. S. Chamberlain, p m
West Farms, A. Smith, p m
Westfield, O. Nicholls, p m
West Greenfield, J. S. Weed, p m
West Henrietta, C. Chapman, p m
G. L. Beckwith,
Westmoreland, A. H. Hallock, p m
West Point, H. W. Crosby,
Westport, C. B. Hatch, p m
West Richmond, D. Stanley, p m
West Sandlake, B. A. Thomas, p m
West Windfield, D. R. Carrier, p m
Wetherfield Springs, B. Bancroft, p m
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Wheatland, R. Harmon, Jr.
Wheeler, O. F. Marshall, p m
White Creek, I. Barker, p m
Whitehall, J. G. Caldwell, p m
White Plains, L. Roe, p m

Whitestown, I. C. Barker p m
Whitesville, S. S. White, p m
Williamsburgh, Wm. Weeden,
Williamsville, J. Hutchinson, p m
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Windham Centre, D. K. Olney, p m
Wolcott, N. W. Tompkins, p m
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Worcester, S. S. Burnside, p m
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Wynant's Kill, A. N. Kinney,
Wyoming, W. B. Collar, p m
Yates, S. Tappan, p m
York, D. McDonald, p m
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Baskinridge, H. Sheldon, p m
Beemersville, G. L. Dunning, p m
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J. Collerd,
Blawenburgh, C. S. Stryker, p m
Bloomsbury, W. Allshouse, p m
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Burlington, Thos. Hancock,
Camden, W. B. Cooper,
Cooperstown, H. Van Houten, p m
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Chester, D. S. De Camp, p m
Cinnaminson, A. Lippincott, p m
Cranberry, F. H. Holmes, p m
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Moorestown, W. Collins. p m
Morristown, J. King, p m
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Abington Centre, A Bedford, p m
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Andrew's Bridge, B Kent. p m
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New Burlington, J Grant, p m
New Carlisle, H J Betts, p m
Newcastle, V Bargay, p m
New Lisbon, B F Thompson, p m
New Madison, E Putnam, p m
New Paris, D G Colton
Newport, E Battelle, p m
Newton Falls, A Phelps, p m
North Bloomfield, S L Hay, p m
North Dover, E Clemans, p m
Norwalk, J Buckingham
Nyesville, N Nye, p m
Oberlin, C T Carrier
Ohio City, C Winslow, p m
Orwell, G A Howard, p m
Painesville, B Adams, p m
Palmyra, A Merwin
Parkman, R Williams, p m
Perrysburgh, D Allen, p m
Peru, A F Vandercook, p m
Piqua, J Johnston
Port William, J Perkins, p m
Putnam, H Nye
Quaker Bottom, J Proctor, p m
Randolph, O C Dickinson, p m
Ravenna, W King, 2d, a p m
Reedtown, M M Mason, p m
Richfield, N O Porter
Richmond, H Crew
Richmond City, B Catlin, p m
River Styx, D Wilson, p m
Rockport, A Wright, p m
Rootstown, J Wright, p m
Salem, J Goulbourn, p m
Salt Creek, N Chapman, p m
Sandusky, E Cook, p m

Seven Mile, J Bolyord, p m
Sheffield, J B Garfield, p m
Sherman, C A Bloomer, p m
Short Creek, J Lewis p m
Shulersville, P C Bennett, p m
Springboro, M Wright, p m
Springfield, J T Warden,
P A Springman
Steuben, H Spencer, p m
Steubenville, W Cabell, p m
Streetsboro, M Stuart, p m
Sunbury, S Peck, p m
Sydney, J Wells, p m
Thomson, C Church, p m
Toledo, J B Gardner, p m
Geo Wadsworth
Urbana, W Hunt, p m
Wadsworth, J Pardee, p m
Wakatomica, W Thompson, p m
Wakeman, J Sherman, p m
Wapaukonetta, S Ayres, p m
Warren, B F Hoffman, p m
A F Newell,
Waterford, C Bowen, p m
Watertown, L C McClanahan
Waterville, D Smith, p m
Waverly, J Carolus, p m
Wayne, H Minor, p m
Western Star, G Palmer, p m
West Vermillion, A Ruggles, p m
West Walworth, W D Wylie, p m
Wethersfield, A True, p m
Whiteford, J White, p m
Williamsfield, M Leonard
Wilmington, J Hale, p m
Windsor, M Barnard, p m
Woodville, A E Wood, p m
York Centre, A H Doolittle, p m
Zanesfield, J Gross, p m
Zanesville, S Howard
U P Bennett.

ILLINOIS.

Abingdon, S Brooks, p m
Alton, N Beidmaster, p m
Americus, C Humphreys, p m
Andover, E Townsend, p m
Aurora, B Winters, p m
Bath, J Savage, p m
Bellville, A T Terrill
Bernadotte, Dr A Stone
Beverly, J Robertson
Blackberry, D Wheeler, p m
Brighton, D Blodgett, p m
Canton, J Wright, p m
Job Shinn
Carmi, J Stewart
Carrolton, C Lancaster, p m
Carthage, V Doty
Chesterfield, M B Lauson
Chicago, S Abell, p m
Circleville, S Hall, p m
Collinsville, H Look, p m
Danville, A Williams, p m
A L Risley
Des Plaines, J Sears, p m
Dixon's Ferry, S Gilbraith, p m
Downers Grove, E W Curtiss, p m
Dunckler's Grove, C H Hoit
Dutchman's Point, N H Phelps
Elgin, J T Gifford
Elk Grove, F T Minor, p m
G W Southworth
Farmington, G W Little, p m
Frankfort, W A Roberts
Franklin, S Hughes
Galena, T Melville
Gap Grove, P C Stewart, p m
Grand View, W K Payne, p m
Greenville, D S Newhall, a p m
Griggsville, S Parsons
Groveland, A L Davison
Hartland, A Judd, p m
Helvetia, D Thorp, p m
Henderson, G Conger, p m
Hennepin, L Pickering, p m
Hitesville, J Hite, p m
Honey Creek, F J C Peasley, p m
Jonesboro, W Willard, p m
Jordan's Prairie A Andrews, p m
Kaskaskia, S H Candee
Kingston, L Lee, p m
Kishawaukie, H L Buel
La Fox, H A Miller, p m
Lasalle, H Hyatt
Lewiston, M Eichelberger, a p m
Libertyville, A Pierce, p m
Lisbon, L Hills, p m
Little Rock, G E Peck
Livingston, D Brown
Lockport, E E Bush, p m
Mendon, W Price, p m
A Blatchley
Monroe, S Meacham, p m
Mount Carmel, J H Beal, p m
Mount Hawley, T Hawley, p m
Mount Sterling, A Curry, p m
Napierville, L Ellsworth
Newark, W Stowell, p m
Olena, Joseph Watson
Ono, A Baldwin, p m
Oregon City, D H T Moss, p m
Oswego, L F Arnold, p m
Ottowa, M E Hollister, p m
Palestine, W Wilson, p m
Paris, M K Alexander, p m
Payson, Warren Miller
Peoria, J C Fuller, p m
Peru, H Hyatt, p m
Pittsfield, D B Bush, p m
Plainfield, R Smith, p m
Plymouth, W M King, p m
Pope Creek, R H Spicer
Prairieville, J C Crozier, p m
Princeton, D G Salisbury p m
Providence, S E Morris, p m
Pulaski, A Oliver, p m
Quincy, H H Hoffman, a p m
Ridge Prairie, G Churchill, p m
Robin's Nest, H I Chase
Rockford, D S Haight, p m
Rock River Rapids, J D Barnett, p m
Rock Spring, J M Peck, p m
Rockville, A Reed, p m
Rockwell, D Lathrop
Rushville, A Dunlop, p m
St Charles, H Bancroft, p m
Shawneetown, E H Gatewood, p m
Shelbyville, O Prentice, p m
Six Mile, T G Lofton
Somonauk, D Merritt
Springfield, J S Roberts, p m
I A Corneau
Staunton, J Bonner, p m
Steel's Mills, J A Lightfoot, p m
Stephenson, M W Conway, p m
Tremont, P Holmes, p m
Trivoli, D A Gool, p m
Upper Alton, D Smith, p m
Vermillionville, C Dryer
Warren C H, D McNeil, p m
E S Swinney
Watertown, J R Mitchell, p m
Wethersfield, J G Dodge
Wheeling, S M Salisbury, p m
York, J B Richardson, p m.

INDIANA.

Alton, M Hubbell, p m
Bedford, R Mitchell, p m
Belleville, J S Odell, p m
Bethlehem, T P Armstrong
Boonville, J W B Moore, p m
Bridgeport, J Johnson
Bristol, J Bishop, p m
Brockville, M Coffin, p m
City West, L Bradley, p m
Cumberland, J Loucks
Fort Wayne, H Rudisill
Frankfort, J Barner, p m
Goshen, E M Chamberlain, p m
Green Castle, A H Nichols
Green's Fork, W W Bunnell, p m
Huntington, G A Tate, p m
La Fayette, Curtis & Ellsworth
Lagro, T Hamilton, p m
Lake C H, Solon Robinson, p m
Lima, O C Ward
Livonia, J C Wible, p m
Logansport, C Carter, p m
W L Stuart
H L Thomas
Madison, W E Robinson, a p m
C W Basnett
G Fitzhugh
Manchester, Ira Wilson
Michigan City, W W Taylor, p m
Mishawauka, O Hurd, p m
J J Deming
Monroe, J Kilgore, p m
Monticello, J Reynolds, p m
Mooresville, S Hunt, p m
Mount Vernon, J J Rountree
Muncietown, E S Keasley, p m
New Albany, D Hedden, p m
Newburgh, A Luce, p m
New Harmony, S W Kellogg, p m
New Marion, R B Mitchell, p m
Newport, D W Clover, p m
Noblesville, F W Emmons, p m
Paris, S M Robinson, p m
Pleasant, A Allen, p m
Richmond, D P Holloway
Rockport, W Lynes
Salem, M Newby
Steubenville, J W Murray, p m
Tremont, W Daniels
Vernon, J McMindes
Westfield, I Williams, p m
West Union, H B Shepard, p m

MICHIGAN.

Adamsville, M G Sage, p m
Adrian, A J Comstock, p m
Albion, J Cromwell, p m
Allegan, D Emerson
Ann Arbor, C Thayer, p m
Auburn, H C Parks, p m
Bainbridge, J H Enos, p m
Barry, J Otis
Bellevue, C Woodbury, Jr. p m
Birmingham, S R Kelsey, p m
Blissfield, H Bliss, p m
Cassopolis, A H Redfield, p m
Centreville, T W Langley, p m
China, J Clark, p m
Clinton, E Smith, p m
Clyde Mills, R Wadhams, p m
Cold Water, H Warner, p m
Concord, J Drake, p m
Constantine, J S Barry, p m
Davisonville, N Davison, p m
Dearbornville, C Howard, p m
Deer Creek, A Holmes, p m
Detroit, S McKnight, p m
L Goodell
Erie, S Keeney, p m
Fentonville, W Tanner
Flint, W C Crandall, p m
Fort Gratiot, E Jenkins, p m
Fulton, J Otis, p m
Galesburgh, J W Cothren, p m
Geloster, I Barnes, p m
Genesee, C N Beecher, p m
Girard, I Parkinson, p m
Grand Haven, W M Terry, p m
Grass lake, L D Hale, p m
Green Oak, K S Bingham, p m
Hanover, J Cruttenden
Harmon, J Ogden, p m
Hartland, I Parshall, p m
Hillsdale, E Manning, p m
Homer, H Smith, p m
Howell, E Barnard, p m
Ionia, E Yeoman's, p m
Jonesville, T C Delavan
Kalmazoo, J W Willard, p m
A T Prouty
Kensington, R Crouse, p m
A D Peck
Kent, A D Rathbone
La Grange, H Bigelow, p m
Lanesville, B H Lane, p m
Leoni, M P Crowell, p m
Litchfield, S Geer, p m
Mackinac, J P King, p m
Marshall, C D Smith, p m
Mason Centre, E B Danforth
Monroe, J Barbour, a p m
Nankin, W Tuttle
Napoleon, J Dewey, p m
New Buffalo, R Pierce, p m
Newport, W White, p m
Niles, R W Landon, p m
Northfield, N S Halleck, p m
North Lake, H Stevenson, p m
Northville, D H Rowland, p m
Oxford, W H Powell
Palmyra, L C Daniels, p m
Paw Paw, O Grimps, p m
Phelpstown, C Carr, Jr. p m
Pine Lake, E M Stickney
Pittsfield, J Hay, p m
Pleasant Valley, H A Armstrong, p m
Plymouth, H A Noyes, p m
Pontiac, S Hodges, p m
Port Huron, D B Herrington, p m
Portland, J Boyer, p m
Raisin, D C Jackson, p m
Ray, Luther Shaw
Redford, D Cable, p m
Saginaw, L Wellington
St Joseph's J F Porter, p m
Saline, O Risdon, p m
Schoolcraft, A D Beals, p m
A D Allen,
Shiawassee, A parsons,
Southfield, L Trowbridge
South Jackson, H Cornell, p m
South Nankin, W Hawley, p m
Springville, J Hart, p m
Stockbridge, S Beebe, Jr
Straits Lake, H Beaty, p m
Troy, J Niles, p m
Unadilla, G C Dibble, p m
Union, J Hitchcox, p m
Union City, J Goodwin, p m
Union District, A Ford, p m
Washington, D Cooley, p m
Weston, J R Haynes, p m
White Pigeon, C Yates, p m
York, D Carpenter
Ysilanti, E Crossett, a p m.

WISCONSIN.

Aztalan, A F Hyer, p m
Beloit, B Cheney
Big Foot, W F Lyon
Bristol, A B Jackson, p m
Calumetville, G White, p m
Cassville, E H Gleason, p m
D Richards
Delavan, Henry Phœnix
Elk Grove, G Messersmith, p m
Ford du Lac, M C Darling, p m
Fort Winnebago, H Merrill, p m
Geneva, A Ferguson, p m
Gratiot's Grove, P J Adams
Green Bay, S W Beal
Heart Prairie, G Esterly, p m
Jamestown, J Gilmore, p m
Janesville, D F Kimball, p m
Jefferson, A E Taylor
Madison, J Catlin, p m
Milwaukie, E B Quinn
New Berlin, P V Monroe, p m
Platteville, D Kendall, p m
Prairie Village, D Jackson, p m
Rochester, H S Hurlburt, p m
Salona, J L V Yates, p m
Sheboygan Falls, C D Cole, p m
Summit, E W Edgerton
White Oak Springs, F Washburn, p m
White Water, D J Powers, p m.

IOWA.

Bellevue, J K Moss, p m
Bloomington, Suel Foster
A T Banks
Burlington, E Low, p m
Camanche, J C Holbrook
Charlestown, W Hubbell, p m
Davenport, D E Eldridge, p m
Dubuque, J King, p m
Fort Madison, P Miller, p m
Salem, A Street, Jr
West Liberty, W A Clarke, p m.

UPPER-CANADA.

Amherstburg, J Kevill, p m
Ancaster, F Dresser
Barrie, R J Williams,
Bayham, J R McKnight
Beamsville, J Osborn, p m
Beverly, Joseph Royce
Brockville, J G Booth
H Jones, p m
Burford, W M Whitehead, p m
Bytown, G W Baker, p m
J Gregory
Carlton Place, R Bell, p m
Chatham, J Read, p m
Chinguacousy, J Holmes, Jr
Cobourg, F H Hall, p m
Colborne, J A Keeler, p m
Consecon, E D S Wilkins, p m
Drummondville, S Falconbridge, p m
Dundas, E Lesslie & Sons
Dunnsville, A S St John, p m
Emily, J. L. Hughes, p m
Errol, A P Toulmine, p m
Farmersville, J Bates, p m
Floss, John Craig
Fredericksburg, I Van Dyke
Gananoque, J Lewis Macdonald
Guelph, J & E A Hartland
Lanark, J Hall, p m
L'Original, C P Treadwell
Maitland, George Longley
March, T Reed, p m
Mohawk, A Cook, p m
Newmarket, W Roe, p m
Norval, John McIntosh
Paris, G McCartney, p m
H Capron
Perth, F Allan, p m
Pickering, F Leys, p m
Port Hope, Mr. Hughes, p m
Port Sarnia, M Cameron
Prescott, W D Dickinson, p m
Raleigh, J Reid, p m
Ramsay, J Wylie, p m
Ramsayville, D Shipman
St Catharines, C Beadle
St John's, J Thompson
St Thomas, Robert Kell
Seymour East, J Rainie, p m
Scarborough, Rev. W. H. Norris,
Simcoe, D Campbell, p m
Toronto, Eastwood & Skinner
Wellington, Dr B S Corey
Wellington Square, D Ghent, p m
Williamsburg, J A Pierce
Windsor, J & J Dougall.

LOWER-CANADA.

Brompton, J Dennett, p m
Clarenceville, C Goodsill
Montreal, B Brewster
Petite Nation, D B Papineau, p m
Stephen Tucker
Qubec, Dr W Marsden
St Armand, James Lee
St Elizabeth, G E Bull, p m
Sherbrooke, J S Walton
George Barnard
Shipton, G K Foster, p m
Victoria, S Yarwood, p m.

NOVA-SCOTIA.

Halifax, C L Belcher.

NEW-BRUNSWICK.

St Andrews, G F Campbell.

ENGLAND.

London, Wylie & Putnam, booksellers

BERKSHIRE AND CHINA PIGS.—The subscriber will have for sale, after 1st of May next, and during the season. Pigs from both the above celebrated breeds, got by the choicest imported boars out of select sows. The price will be, for Berkshires, two months old, boxed and delivered on steam-boat in Buffalo, or canal boat, per pair, $20. Chinas, $15. Older pigs and very select, will come at higher prices.

No orders will be considered as engaged unless the cash is remitted, and in all cases persons first remitting will be first supplied. A. B. ALLEN.

Buffalo, Nov. 23, 1840.

IMPROVED STOCK.—The subscriber has for sale, at Three Hills Farm, three and a half miles west of Albany, on the Cherry Valley road:

Cattle—Consisting of 1 Bull, 3 years old—5 Bull Calves, and several Cows, from 4 to 8 years old, of the "Improved Durham Short Horned" breed, with good pedigrees. One imported Heifer, and 1 yearling Bull, of the Herefordshire breed. Also, 1 Bull and 1 Heifer Calf, a cross of the Hereford and Devonshire breed, both dark red and beautiful animals. Also, 2 full bred Devonshire Cows.

A yearling Bull, out of a full bred Durham cow, and got by an imported Ayreshire bull.

Sheep—Consisting of 1 three year old Buck, and 3 Buck Lambs. Also, 4 Ewes, from 2 to 4 years old, of the South Down breed.

Hogs.—I hope to have, in the spring, "any quantity of pure *Berkshire, Neapolitan* and *Chinese Pigs.*—"First come, first served."

All letters, (postage paid,) will receive prompt attention. CALEB N. BEMENT.

THE subscriber offers for sale a short Horn Durham and Ayrshire bull, now 18 months old; he is of good size and form, has a good pedigree. Letters addressed to Northumberland, Saratoga co. N. Y. (post paid) will meet with prompt attention.

WILLIAM BEMENT.

BERKSHIRE PIGS.—The subscribers will be able to furnish to breeders of Berkshire Pigs, on the opening of navigation next spring, a supply from their late importation, (not knowingly connected with any in the country,) selected expressly for them by Mr. Hawes, from the best stocks in England, as an advantageous cross on former importations. Purchased under eight weeks old, $20 per pair, (male and female,) shipped in secure cages from New-York or Albany, $25 per pair. Letters of inquiry, when post paid, will be promptly replied to. A. & G. BRENTNALL.

Canterbury, Orange Co., N. Y., Nov. 27, 1840.

BERKSHIRE PIGS.—The subscriber offers for sale genuine Berkshire pigs eight weeks old. Price $12 per pair, delivered on board of any vessel in New-York, free of charge. WM. B. PARSONS.

Flushing, 12th mo., 4th, 1840.

BERKSHIRE AND IRISH GRAZIER PIGS.—The subscriber will receive orders for pure Berkshire Pigs, bred from stock selected of Mr. John Lossing and C. N. Bement, esq., of Albany, and importations from England.

Also, for Irish Grazier, or Improved Ulster Pigs, from stock imported from Ireland, and from the Piggery of a distinguished breeder. Also for Pigs produced by a cross of the Irish Grazier with the Berkshire. Address JOHN P. E. STANLEY, Baltimore, Md.

Nov. 26, 1840.

BULLS TO LET.—Dictator, red and white, calved April, 1836; got by Albion, (1620) dam Dew-Drop, by Charles, 878, g. d. Dulcibella by Frederick, (1060) g. g. d. by Major, (2252) &c.

Prince, white, with red spots, calved May, 1838, got by Ajax, dam Princess, by Washington, (1566) g. d. Pansey, by Blaire, (76) g. g. d. Primrose, by Charles, (127) &c. Ajax, bred by the Patroon of Albany, got by Washington, (1566) dam Red Lady, by Washington, (1566) g. d. Pansey, by Blaire, &c.

Remus, white, with red spots, calved in 1839, got by Dictator, dam Rachel, by Washington, (1566) g. d. Pansey, by Blaire, (76) g. g. d. Primrose, by Charles, (127.)

The above bulls are all thorough bred animals, of the improved Durham Short Horn breed, as will appear by the Herd Book, and will be let for one, or a term of years. For terms apply to HENRY WATSON.

East Windsor, Connecticut, 1840.

VERMONT BEE-HIVES.—The subscriber has made arrangements with Mr. M. Wynard, in Jacob Vanderpool, Jr's building in the rear of the mohogany yard, 28 and 30 Cherry-street, N. Y., to manufacture Vermont Bee-Hives. The price of a good plain Hive, with drawers, will be about $1.50; of those of more beautiful wood work, with glass windows and drawers, in which all the operations of the bees can be seen, will be in proportion to the value of the materials and finish of the Hive. For the advantages which these Hives possess over those in common use, see several notices of them in the Cultivator, and also Weeks's valuable and interesting treatise on the management of bees. Hives will be sent to any part of the country, agreeably to directions. Rights to use or to construct Hives, and also Weeks's Treatise on Bees, for sale here.

SAM'l I. GUSTIN, *Agent*
for JOHN M. WEEKS.

New-York, Nov. 25, 1840.

THE HARTFORD COUNTY AGRICULTURAL SOCIETY, have appointed E. W. BULL their seedsman. He is now daily expecting an extensive assortment of Vegetable and Flower Seeds from England and France, and will receive from the same sources in the spring, fine standard and dwarf trees of all the new and approved kinds of Pear, Peach, Plum and Cherry.

Hartford, Ct. Nov. 1840.

PITTS'S MACHINE FOR THRASHING AND CLEANING GRAIN.—This machine has now been in successful operation about four years, and its merits are well known and duly appreciated; three hundred of them being now in the hands of the American farmers; for a descriptive statement and operation of the machine, see August number of Cultivator, page 128.

N. B. The above machines are manufactured and sold by the subscriber at Albany, N. Y.

JOHN A. PITTS.

AMERICAN SEED STORE AND AGRICULTURAL WAREHOUSE, No 7 Merchant's Row, near State-Street, Boston. HOVEY & Co. wholesale and retail dealers in Garden and Grass Seeds, Agricultural Implements, Plants, Bulbs, &c. offer for sale one of the largest and most complete assortment of garden seeds of the growth of 1840, to be found in the country; comprising all the newest and most approved sorts, nearly all of which were raised expressly for us, by the most experienced growers. Some of the most important are as follows:

Sugar Beet, Carrots, Ruta Baga, Turneps, Pure Blood Beet, Cabbages, Onions, Lettuces, Peas, Beans, Corn, Squashes, Cauliflower, Radishes, Parsnips, &c. &c. with every variety wanted in the garden.

ALSO AGRICULTURAL IMPLEMENTS, Cultivators and Plows, Seed Sowers, (2 patterns,) Vegetable cutters, (new) Hay and Straw Cutter, Churns and Cheese Presses, Hoes, Rakes, Scuffles, &c. Hedge Shears, Pruning Knives, &c. Garden Trowels, Syringes, &c. Scythes, Sickles, &c. &c. Shovels, Spades, and Forks, 400 varieties of Flower Seeds, including the most splendid variety of German asters, Larkspurs, Balsams, &c. of our own growth, and warranted genuine.

GRASS SEED, RED AND WHITE CLOVER, Lucerne, Millet, Foul Meadow Grass, Barley, Spring Rye, Wheat, &c. of the best quality.

SEEDS put up in boxes, of various sizes, from $5 to $50 each, all ready for retail—every kind neatly labelled with the name, and *practical* directions for their cultivation.

☞ A liberal discount allowed to country traders.

Seeds packed so as to be safely transported to any part of the world. Catalogues of Seeds, Trees, Dahlias, &c. *gratis*, on application. HOVEY & Co.

Boston, Dec. 1840.

MOTT'S PATENT AGRICULTURIST'S FURNACE.—This article was constructed in consequence of a suggestion from the American Institute, that a simple, portable, and low priced furnace was much wanted by farmers, for boiling and steaming food, preparing maple or beet root sugar, and for many mechanical purposes. The Institute awarded it a silver medal at their late fair. Patterns for all sizes from 15 to 120 gallons are in progress of making. The smaller sizes will be well adapted for common washing boilers, they will be fitted for using either wood or coal. But one size (45 gallons) has been made, and the demand has been so great that many have been disappointed.

That the benefits of the improvement may be distributed as much as possible, the patentee has concluded to sell patterns and state, county, or furnace rights to founders and others. He will also furnish patterns and rights, for any of his patented inventions, at much less expense than it will cost to try experiments and make the patterns. Among the patents are.

1. The Combined Rotary Steam Conductor, the only stove that effectually conveys the smell and steam from the utensils to the chimney. This stove has been awarded the first premium at each of the five last fairs.

2. The Improved Self-Feeding Stoves. The Self-Feeder has been awarded the premium for coal cooking stoves at every fair since 1834.

3. The Farmer's Fuel Saver, a new wood stove. This stove was awarded the first premium, as the best wood cooking stove at the late fair, when there was 114 cooking and other stoves in competition, and many of them in operation. This stove can be mounted and set up at less expense than any other in use. The improvements are applicable to any other stove.

4. The Sectional or Ring Stove for heating, equally well adapted for the use of anthracite or bituminous coal. This stove is not lined with brick, will give out a third more heat, and last double the length of time of any other cast-iron stove.

5. The Portable Chip and Charcoal Furnace, these are so constructed that utensils of various sizes, of almost any form, with or without legs will readily fit them without additional fixtures. They are much more durable than the common clay furnace. Their unprecedented sales, proves their value. They also have been awarded the premium by the Institute.

All application by mail (post paid) will meet with prompt attention, and any further information given; address JORDAN L. MOTT,
264 Water-street, New-York.

☞ The above are secured by over twenty patents; don't infringe.

$100 PREMIUM.—The subscriber has for sale, an extensive assortment of Prouty & Mear's Patent Centre Draught Premium Plows, of patterns adapted to the different modes of culture and varieties of soil, with extra points and land sides. Also Corn Shellers, Corn Crackers, Root Cutters, Hay and Straw Cutters, Sausage Fillers, Apple Pearers, Force Pumps, Cheese Presses, Hoes, Shovels, Spades, Pruning Shears and Knives, Grass Hooks, &c. &c. Garden, Grass and Flower Seeds. Dealers supplied on favorable terms. D. O. PROUTY,

Agricultural Warehouse and Seed Store No. 87 North Second-street, Philadelphia.

A FARM TO LET for one or more years on shares or at a stipulated rent, to a thorough bred English or Scotch farmer, consisting of about two hundred and sixty acres, including above fifty acres of intervale, most eligibly situated in the valley of the Mohawk, Montgomery county, on the north side of the river, surrounded by flourishing villages, with the turnpike road running through it and about three miles east of the Montgomery Court House. It is excelled in quality by no farm in the county, is well watered and adapted to grass or grain. For further information apply to DANIEL CONYNE, Innkeeper, near the premises.

SUPERIOR NEW STRAWBERRY.—Hovey's seedling, a new variety raised in 1834, and now offered to the public, after a trial of three years in a bearing state, has confirmed its superiority over every other variety cultivated in this country.

The fruit is exceedingly large, 5 to 6 inches in circumference, of a deep shining red, with scarlet flesh, and abounding in a most agreeable acid, and exceedingly rich and high flavored juice. The vines are of vigorous growth and as hardy as the early Virginia, standing our winters without injury.

This strawberry was first exhibited at the Mass. Horticultural Society room in 1838, again in 1839, and also in 1840, and obtained a premium each year, although in competition with the Keen's seedling and Methven scarlet. Gentlemen well acquainted with all the other varieties cultivated in this country, pronounce this to be the largest, handsomest, best flavored and most productive and hardy variety they have ever seen.

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WILLIS GAYLOD & LUTHER TUCKER, EDITORS.

Prospectus of Vol. 8, *for* 1841.

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CULTIVATOR AND THE GEN. FARMER.

CULTIVATOR, VOL. VIII.—CULT. AND FARMER, VOL. II.

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PUBLISHED BY LUTHER TUCKER.

FROM VAN BENTHUYSEN'S STEAM PRESS.

1841.